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RAPID ASSESSMENT ON INVOLVING LOWER CLINICS AND DRUG VENDORS IN TUBERCULOSIS SUSPECT IDENTIFICATION AND REFERRAL

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

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ACRONYMS

AFB	Acid Fast Bacilli
ART	Antiretroviral Therapy
BCC	Behavioral Change Communication
CDR	Case Detection rate
DOTS	Directly Observed Treatment-Short Course
FGD	Focus Groups Discussion
FMOH	Federal Ministry of Health
HEWs	Health Extension Workers
HIV	Human Immuno-deficiency Virus
HMIS	Health Management Information System
KII	Key Informant Interview
MDR-TB	Multi-Drug Resistant Tuberculosis
NTP	National Tuberculosis Program
PHSP	Private Health Sector Program
PLWHIV	People Living With HIV/AIDS
PPM	Private Public Mix
RHB	Regional Health Bureau
SNNP	Southern Nations, Nationalities, and Peoples
TB	Tuberculosis
TB CAP	TB Control Assistance Program
THO	Town Health Office
USAID	United States Agency for International Development
WHO	World Health Organization
WoHO	Woreda Health Office
ZHD	Zonal Health Department

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EXECUTIVE SUMMARY

Related to Ethiopia's commitment to achieve the Millennium Development Goals is the target of reducing the country's tuberculosis (TB) incidence rate. To do this, the Federal Ministry of Health (FMOH) has designed a strategy to strengthen the capacity of public and private health facilities to do TB case detection and to expand coverage and treatment success rate of the Directly Observed Therapy, Short Course (DOTS) program. By engaging the private and public health sectors and creating a proper supporting mechanism, the FMOH also aims to achieve the two additional, Stop TB Partnership targets for 2015 of reducing the TB prevalence and mortality to half of their 1990 levels. Finally, this Public-Private Mix (PPM) will also contribute to reducing morbidity and mortality, and preventing the development of drug resistance through standardized diagnosis and treatment of TB and TB/HIV by all health care providers in the country.

As part of the support for the Ethiopian government, the United States Agency for International Development (USAID), through the Private Health Sector Program (PHSP), is supporting the implementation of TB-DOTS and HIV counseling and testing (HCT) services in 179 private health facilities and 10 workplaces in Addis Ababa and Dire Dawa City Administrations, as well as in the regional states of Amhara, Oromia, Tigray, Harrari, and Southern Nations, Nationalities, and Peoples (SNNP). So far the support has been for the private hospitals, and higher and medium clinics. In the coming years, PHSP is planning to expand TB case detection and referral, and possibly TB-DOTS administration to 250 private facilities that include lower clinics, drug vendors, drug stores, and pharmacies. As part of the expansion plan, this rapid assessment was conducted to provide basic information to guide and design strategic direction for involving lower clinics and drug vendors in TB case detection and establishing referral networks with health facilities that provide TB-DOTS.

The specific assessment aimed to collect information which would guide the direction of PHSP's work in TB:

- To increase case finding and treatment success
- To optimize the use of available resources for major public health problems
- To improve equity and access to effective and affordable services
- To reduce financial burden on patients
- To improve patient-centered TB care, support, and treatment.

This assessment was conducted in selected towns that are PHSP PPM-DOTS service intervention sites in Oromia and Amhara Regions. Eleven towns were assessed in Oromia (Adama, Agaro, Ambo, Assela, Bishoftu, Burayo, Dera, Dukem, Jimma, Modjo, and Shashemene), and eight in Amhara (Bahir Dar, Burie, Debre Birhane, Debre Markos, Dessie, Gondar, Hayk, and Kombolcha). The Regional Health Bureaus (RHBs), Zonal Health Departments (ZHDs), Town Health Offices (THO), Woreda Health Offices (WoHO), and both private and public health facilities were sampled purposively. In total, two in-depth interviews were conducted with the Oromia and Amhara RHBs, 11 with the ZHDs, 19 with THOs/WoHOs, 19 lower clinic owners, 19 drug vendor owners, 38 health workers in the private and public health facilities, 19 health extension workers, four focus group discussions (FGDs) with patients enrolled in public health facilities, and two FGDs and four in-depth interviews with patients enrolled in private health facilities.

All the respondents said that TB prevalence is high in the two regions and all believe that the case detection rate is low. The main reasons given were related to patient-related factors, health facility factors, and the high number of HIV cases in the assessed towns.

The patient-related factors contributing to the high TB magnitude and undiagnosed cases in the community are due to poor health seeking behavior of community members, who mostly attribute the signs and symptoms of TB to exposure to the wind referred to as “bired.” As a result, patients visit holy water sites and traditional healers, and try home remedies before they visit health facilities. All these measures delay the diagnosis of the disease and enhance the transmission. Other patient-related factors are the poor and crowded housing conditions, which facilitate transmission. The public transport system is considered a good transmission route for TB, as the passengers prefer to close the windows because of their fear of the bired, thus reducing the inside cabin ventilation. Family screening of TB cases is also low and not optimally practiced in most facilities.

The second factor relates to the health facility. Although trainings are given for public health facilities, the quality of services is relatively low and proper counseling of patients on infection prevention is not done. Nor do the facilities practice good infection control. Most health facilities that provide TB-DOTS services are located far for most members of the community and wait times are often long because there is a long queue of patients; as a result, patients resort to visiting lower clinics and drug vendors, or they self-treat. The lower clinics and drug vendors do not have the capacity to properly screen TB, and there is no referral mechanism between these facilities and TB-DOTS sites. All these factors delay the diagnosis and treatment of TB.

The third factor for the possible increase in TB is the high HIV prevalence in the assessed towns. As is well known, HIV fuels TB and in a situation where there is a high HIV burden, TB is also high.

In light of all these factors, assessment respondents expressed their belief that building the capacity of private facilities would be beneficial. All mentioned the following benefits:

- Increases the physical access of services to the patients;
- Shares the burden with the public facilities;
- Patients have a choice of their own service providers.

A total of 472 lower clinics and drug vendors were identified in the assessed towns. All interviewed lower clinics and drug vendors were fully supportive of being involved in the TB program. They requested trainings and provision of the necessary supplies, as well as creation of a formal referral linkage between the private and public and between private health facilities. They also suggested establishing experience-sharing mechanisms with the public health care system.

In conclusion, lower clinics can be involved in screening of TB cases, referring suspected cases to TB diagnostic facilities and administering TB drugs once diagnosed by higher facilities.

I. BACKGROUND

According to a World Health Organization (WHO) 2010 report, worldwide in 2009 “there were 9.4 million incident cases (range, 8.9 million–9.9 million) of TB [tuberculosis], 14 million prevalence cases (range, 12 million–16 million), 1.3 million deaths among HIV-negative people (range, 1.2 million–1.5 million), and 0.38 million deaths among HIV-positive people (range, 0.32 million–0.45 million). Most cases were in the South-east Asia, Africa, and Western Pacific regions (35%, 30%, and 20%, respectively). An estimated 11–13% of cases were HIV positive; the African region accounted for approximately 80 percent of these cases. There were 5.8 million notified cases of TB in 2009, equivalent to a case detection rate of 63 percent (range, 60–67%), up from 61 percent in 2008. Of the 2.6 million patients with sputum smear-positive pulmonary TB in the 2008 cohort, 86 percent was successfully treated” (WHO 2010). In the same report, 15 countries which engaged all care providers in TB control (termed public-private mix, or PPM) were more effective in increasing the case detection rate (CDR). In areas where PPM was implemented, non-National Tuberculosis Program (NTP) providers accounted for around one-fifth to one third of total notifications in 2009. In one study in India, the case detection rate of TB increased from 27.8/100,000 to 33.5/100,000 in two years’ time by training private laboratories on TB microscopy and training private physicians (Kumar et al. 2005). In Vietnam, involvement of pharmacies has improved the effectiveness of TB-Directly Observed Therapy, Short Course (DOTS) (Lönnroth et al. 2003).

WHO (2010) also stated, “Incidence rates are falling globally and in five of WHO’s six regions (the exception being the South-east Asian Region, where the incidence rate is stable). If these trends are sustained, the Millennium Development Goal target will be achieved. Mortality rates at global level fell by around 35% between 1990 and 2009, and the target of a 50% reduction by 2015 could be achieved if the current rate of decline is sustained. The mortality target will be achieved in all but Africa, even if there will be reduction.”

In the WHO 2010 report, Ethiopia, with a population of 82,825,000, stated that there were 300,000 TB cases (range, 240,000 - 360,000), equivalent to 362 cases per 100,000 population, and prevalence was 480,000 (range, 220,000 - 790,000), equivalent to 579/100,000 population. The new and relapse cases notified were 148,936. The percentage detected of new pulmonary cases that were sputum positive was 46 percent. The case detection rate for all cases was estimated to be 50 percent (ranging from 42 percent to 61 percent).

Today, TB continues to cause tremendous morbidity and mortality in Ethiopia. National and international attention is now focused on providing care in both the public and private health sectors.

According to the Federal Ministry of Health (FMoH), in the 2001 EC (2008/2009 GC¹) report, TB is the leading cause of hospitalization and the third leading cause of death in the country. With prevalence and incidence rates of 579 and 379/100,000 respectively for all forms of TB and an incidence of 163 /100,000 for new smear positive TB cases, Ethiopia ranked seventh among high-burden countries. In the comprehensive plan of TB, one major activity is to increase the CDR from the current 35.5 percent to 70 percent. To achieve this target, along with other major activities, building the capacity of Health Extension Workers (HEWs) to mobilize the community for early TB diagnosis and active TB case

¹ Ethiopia uses the Ethiopian calendar (EC). GC refers to the Gregorian calendar.

detection will be given priority (to screen all TB suspects and start community DOTS service in each kebele).

PPM-DOTS is another strategy the country has identified. PPM-DOTS objectives are to decrease morbidity and mortality and reduce multi-drug-resistant (MDR) TB by involving the public and private health facilities in TB diagnosis and TB-DOTS (FMoH 2006). In Ethiopia, out-of-pocket health expenditure is 63.8 percent (Uplekar et al, 2001), and the country recognized this fact by designing a national guideline for PPM-DOTS.

Since 2006, the United States Agency for International Development (USAID)-funded PSP and PHSP have been supporting the implementation of TB-DOTS and HIV/AIDS counseling and testing (HCT) services in 179 private clinics and 10 workplaces in Addis Ababa and Dire Dawa City Administrations, and the regional states of Amhara, Oromia, Tigray, Harrari, and SNNP. Using different strategies, the projects have been supporting the private and public sectors in policy formulation, capacity building, logistics and supplies, quality assurance, service delivery, and monitoring. Along with the geographic and site expansion, there is a plan to include 250 lower clinics, rural drug vendors, drug stores, and pharmacies in TB case detection and referral networking. The involvement of lower clinics and rural drug vendors is believed to increase the unacceptably low case detection rates for pulmonary TB cases and to improve feedback mechanisms between facilities in patient referral and transfer-out.

Health workers in private lower clinics and rural drug outlets have a generally low level of pre-service professional training in TB and also lack strong links with the government health sector, which provides regular training/updates on newly available information and program implementation tools and strategies related to major diseases of public health importance such as TB. Therefore, a comprehensive approach is crucial in the overall attempt to involve these facilities in the identification and referral of TB suspects. It is important to design strategies to involve these health care providers to bridge many of the existing information and skills gaps and to integrate and engage them in the national TB prevention and control program.

A significant number of patients visit lower clinics and drug outlets to seek treatment, and some of these patients can be TB cases. Therefore, involving lower clinics and drug outlets will improve pulmonary positive TB case detection. They will also have a role in the follow-up of TB patients, in drug adherence counseling, and in decreasing drug-resistant TB. This will also provide an opportunity to improve the current relatively low adherence in most PPM-DOTS sites.

2. PURPOSE

The overall purpose of this rapid assessment was to gather and analyze basic information from selected sites to guide and design a strategic direction for involving lower clinics and drug vendors in TB case detection and establishing referral networks with existing TB-DOTS providing health facilities.

The specific objectives of the assessment were:

- To identify and document the presence of existing lower clinics and drug vendors in the study towns.
- To investigate the role of RHBs), ZHDs, THOs, and WoHOs in TB-DOTS service delivery.
- To assess the interest, willingness, and commitment of the lower clinics and drug vendors to be involved and participate in the TB suspect identification and referral network schemes.
- To provide information on the human resource composition and professional caliber available in the existing lower clinics and among drug vendors.
- To identify the existing reporting and supportive supervision relationships of the lower clinics and drug vendors within their respective public health structure.
- To identify and document existing experiences, if any, of referral linkages or networks between the lower clinics and drug vendors with the higher-level health care institutions, both public and private.
- To identify and document the available referral accepting health facilities, both public and private, which provide TB diagnosis and treatment in the towns which were assessed.
- To document the opinions of TB patients on the advantage of involving lower clinics and drug vendors in TB case detection and referral.

3. METHODOLOGY

3.1 DEFINITION OF TERMS

Private health facilities include pharmacy outlets, private hospitals, specialized higher clinics, general higher clinics, and medium and lower clinics that are established for profit. The definition of private hospitals, different categories of clinics, and drug vendors can be seen in the FMOH guideline that classifies health facilities in the country.

3.2 STUDY AREA AND POPULATION

This assessment was conducted in 19 selected towns and WoHOs/THOs located in Amhara and Oromia regional states that are located along/near to PHSP PPM-DOTS service intervention sites. Eleven towns were assessed in Oromia (Adama, Agaro, Ambo, Assela, Bishoftu, Burayo, Dera, Dukem, Jimma, Modjo, and Shashemene) and eight in Amhara (Bahir Dar, Burie, Debre Birhane, Debre Markos, Dessie, Gondar, Hayk, and Kombolcha). See Table I for details.

Most of the towns which were assessed are the seats for the zonal administration and have large populations. Several are in cash crop areas and others are situated along the major highway leading to Djibouti. Many of them have large numbers of migrant day laborers, and others house factories, universities, and colleges. With their high level of economic activity, they are among the emerging towns in the nation.

TABLE I: LIST OF ASSESSED TOWNS

Region	Category	Zonal/Town Administration	Name of Towns
Amhara (8 towns)	West Amhara (4 towns)	Bahir Dar	Bahir Dar
		E.Gojam	Debre Markos
		W. Gojam	Burie
		N.Gondar	Gondar
	East Amhara (4 towns)	N.Shoa	Debre Birhan
		S.Wollo	Kombolcha
			Dessie
			Hayk
Oromia (11 towns)	East Oromia (7 towns)	E.Shoa	Bishoftu
			Modjo
			Dukem
		Adama	Adama
		W. Arsi	Shashemene
		Arsi	Dera
			Assela
	West Oromia (4 towns)	W.Shoa	Ambo
			Burayo
		Jimma	Jimma
			Agaro

3.3 STUDY DESIGN

This is a cross-sectional qualitative study that employed primary and secondary data collection approaches. Secondary data were collected from existing international, national, and regional health policies, strategies, and implementation modalities targeting TB. A literature review was conducted of health facility and WoHO/THO records and survey reports, to complement the findings from the primary qualitative data.

3.4 DATA COLLECTION

As noted above, primary and secondary data were collected from different types of sources using different methods. Table 2 summarizes data approaches and sources.

Review of policies, strategies, and implementation plans: Available international, national, and regional policies, strategies, and plans related to TB and health care in general that contribute to the TB program were reviewed. The review analyzed the strengths and weaknesses of the existing system and the opportunities to implement a comprehensive TB program in the private sector and strengthen the link with the public health care system.

Literature review: This was done to strengthen the evidence available on health issues in general and TB in particular in relation to the involvement of private sector and linkages between the community health workers and public health facilities. Published and unpublished literature on the TB health service delivery system and challenges, particularly in Africa and Ethiopia, were reviewed with emphasis on experiences to increase TB case detection, community DOTS expansion, and involvement of the private health care system in TB case detection, DOTS, and referral networks with the public health care system. The literature review included national surveys, research papers, project and program evaluation reports, and baseline surveys.

TB/HIV program integration and referral linkage experiences were also examined to come up with a recommendation to integrate the private health care system with the public and community health care systems.

Review of hospital, health center, WoHO, and private health facility records and reports: Secondary data were collected by reviewing reports and records of 20 selected hospitals, health centers, and private health facilities as well as WoHOs located in the sampled towns. Data were collected for the one-year period July 2010 through June 2011.

TABLE 2: SUMMARY OF DATA COLLECTION APPROACHES, RESPONDENTS, AND NUMBER OF INTERVIEWS

S/ No	Town	Tool I: Zones	Tool I: THO	Tool II & health facility register: public and lower clinics/ drug vendors	Tool III: IDI lower clinic owners	Tool III: IDI drug vendor owners	Tool IV: IDI for general health workers (private and public)	Tool V: Health Extension Workers	Tool VI: focus group discussions w/ public health facility patients	Tool VI: In- depth interview of private health facility patients	RHBs
1	Debere Markos	1	1	All in the town	1	1	2 (pvt & Pub)	1			
2	Burie		1	All in the town	1	1	2 (pvt & pub)	1			
3	Bahir Dar	1	1		1	1	2(pvt & Pub)	1	1	1	3
4	Gondar	1	1	All in the town	1	1	2 (pvt & Pub)	1			
5	Debre Brehan	1	1		1	1	2 (pvt & pub)	1			
6	Kombolcha		1	All in the town	1	1	2 (pvt & pub)	1			
7	Dessie	1	1		1	1	2 (pvt & pub)	1	1	1	
8	Hayk		1	All in the town	1	1	2 (pvt & pub)	1			
9	Dukem		1		1	1	2 (pvt & pub)	1			
10	Bisheftu		1	All in the town	1	1	2 (pvt & pub)	1			
11	Modjo		1		1	1	2 (pvt & pub)	1			
12	Adama	1	1	All in the town	1	1	2 (pvt & pub)	1	1	2	
13	Dera		1		1	1	2 (pvt & pub)	1			
14	Assela	1	1	All in the town	1	1	2 (pvt & pub)	1			
15	Shashemene	1	1		1	1	2 (pvt & pub)	1			
16	Ambo	1	1	All in the town	1	1	2 (pvt & pub)	1			
17	Burayu	1	1		1	1	2 (pvt & pub)	1			
18	Jimma	1	1	All in the town	1	1	2 (pvt & pub)	1	1	2	
19	Agaro		1		1	1	2 (pvt & pub)	1			
20	Oromia Reg. Health Bureau										3
	Total	11	19		19	19	38	19	4		6

Key informant interviews (KII): The KIIs gathered ideas from different decision makers and implementers of TB-DOTS services on opportunities and challenges in involving lower clinics and drug outlets in TB-suspect identification and referral services.

Four teams of experienced and trained interviewers using interview guides prepared specifically for this study conducted KIIs with RHB experts and decision makers, ZHDs, WoHOs/THOs, and owners/representatives of lower clinics and drug vendors, as well as with the public and private health facility care providers in the 19 study towns. The 132 KIIs conducted provided a wealth of information for involving lower clinics and drug vendors in TB case detection and referral activities.

Focus group discussions: FGDs were held with TB patients enrolled in private and public health facilities. Eight FGDs (four in private and four in public health facilities) were conducted in East Amhara, West Amhara, East Oromia, and West Oromia. The selection of the FGD sites was made in consultation with PHSP and was based on the patient load and availability of services. Each FGD each group comprised 6–12 persons. The discussants were selected purposively with the assistance of the TB focal person of the respective health facilities. The discussions were conducted in Amharic, but in Oromia bilingual interviewers were used.

Issues addressed in the FGDs included the experience of TB patients in seeking health care such as duration of illness and types of health facilities visited before TB diagnosis, costs incurred, challenges encountered, reflection on things that would have been done better, and opinion in engaging lower clinics and drug vendors in the TB suspect identification and referral services.

Mapping of lower clinics and drug vendors: The mapping of private higher, medium, and lower clinics, drug vendors and non-governmental organization (NGO) health care facilities was done in collaboration with the WoHOs/THOs. The data collection team then visited each town to identify and record the specific locations where these public, private higher/medium clinics, and NGO institutions, if any, currently delivering TB-DOTS and TB/HIV services are situated. During the visit the data collectors documented the working hours, the available staff and staff composition, as well as the capacity and willingness of the staff to get involved in TB care. In addition, the workload of the health facilities was reviewed and documented from registers and reports.

TABLE 3: DATA COLLECTION METHODS PER RESEARCH OBJECTIVE

Objective	Data Collection Method(s)
To identify and document the existing lower clinics and drug vendors in the study towns: By doing this, the study will identify a list of potential sites for TB suspect identification and referral. This assessment documents specific locations, a contact person, and telephone numbers for each facility and describes the services available as well as working hours.	<ul style="list-style-type: none"> • KII • Document review (relevant documents from respective RHBs/THOs) • Mapping
To investigate the role of RHBs and THOs in TB-DOTS service delivery: The study will also assess the consistency of TB-care logistics supply to public and private health facilities, frequency of supply refilling, and the possibility of linking private sector with the existing logistic system.	<ul style="list-style-type: none"> • KII (RHB, ZHD, THOs)
To assess the interest, willingness, and commitment of the lower clinics and drug vendors to be involved and participate in the TB suspect identification and referral networking system.	<ul style="list-style-type: none"> • KII (lower clinics and drug vendors)

To provide the human resource composition and professional caliber available in the existing lower clinics and drug vendors: It also addresses the level of awareness and conceptual understanding of the service providers on TB.	<ul style="list-style-type: none"> • KII (lower clinics and drug vendors) • Document/ record review (lower clinics and drug vendors)
To identify the existing reporting and supportive supervision processes of the lower clinics and drug vendors with the respective public health structure.	<ul style="list-style-type: none"> • KII (RHB, ZHD, THOs) • KII (lower clinics and drug vendors)
To identify the existing experience, if any, of referral linkages or networking between the lower clinics and drug vendors to a higher-level health care service institution, public or private.	<ul style="list-style-type: none"> • KII (lower clinics and drug vendors) • KII (RHB, ZHD, THOs) • KII (health care providers in higher-level health care service institution, public or private) • FGD (TB-DOTS patients at public health facilities) • KII (PHSP staff)
To identify and document the available referral accepting health facilities, both public and private facilities which provide TB diagnosis and treatment in the assessment towns.	<ul style="list-style-type: none"> • Health facilities' documents/records review (service records, referrals) • KII (in higher-level health care service institutions, public or private)
To assess if the lower clinics and drug vendors had previous experience in TB suspects referral to the higher-level health facilities.	<ul style="list-style-type: none"> • KII (lower clinics and drug vendors) • FGD (TB-DOTS patients at public health facilities) • Documents/records review (service records, referrals, etc.)
To identify the opinion of TB patients on the advantage(s) of involving lower clinics and drug vendors in TB case detection and referral.	<ul style="list-style-type: none"> • FGD (TB-DOTS patients at public health facilities) • FGD with patients enrolled in private health facilities

3.5 ENSURING DATA QUALITY

To ensure data quality, utmost attention was given to developing data collection tools. This included reviews by experts from PHSP, field testing and training of data collectors on how to use the tools before embarking on the actual data collection.

To increase compliance of respondents, the research team explained the purpose of the session and ensured confidentiality. The interview began only after the respondent voluntarily agreed to participate. The interviews were conducted in settings where questions and answers could not be overheard by others. Interviewers engaged respondents in a rapport-building conversation before asking questions to reduce the likelihood that respondents would give socially desirable answers rather than telling the truth. Full-time PHSP supervisors checked the data for quality, completeness, and appropriateness. The interviews were tape-recorded and transcribed to check and confirm completeness.

3.6 DATA ANALYSES AND REPORTING

All verbatim and audio-recorded FGDs and KII information were translated and transcribed into English. The four teams of data collectors prepared initial summary reports. The main investigator reviewed these summary reports and transcriptions to check whether they are summarized using the pre-agreed format and themes. Finally, the principal team leader discussed any points that required clarification with the field team and then compiled the report.

Data from records, literature reviews and qualitative methods were triangulated and conclusions and recommendations were then determined.

3.7 ETHICAL CONSIDERATIONS

The responsible government authorities at all levels were informed by PHSP through a formal letter requesting the authorities to approve the rapid assessment. Informed verbal consent was also obtained from each interviewee/FGD discussant after a brief explanation about the objectives and contents of the study.

4. RESULTS

PART I: OROMIA REGION

4.1 THE ROLE OF REGIONAL HEALTH BUREAUS, ZONAL HEALTH DEPARTMENTS, AND TOWN HEALTH OFFICES IN TB-DOTS SERVICE DELIVERY

4.1.1 REGIONAL HEALTH BUREAU: MAGNITUDE OF TB IN OROMIA REGION AND ACTIVITIES IMPLEMENTED

Magnitude of the problem: The three TB/HIV experts interviewed from the Oromia RHB said that TB is a major and increasing problem in their region, especially because it is coupled with high HIV prevalence. The case detection rate for all forms of TB cases in Oromia in 2002 EC was reported to be 39 percent. All three respondents believe that there are still TB suspects undiagnosed in the community and spreading the infection.

According to the respondents, the routine health facility data show that both TB and HIV are on the increase, but they also noted that this increase could be due to the increase/improvement in the TB detection rate, an increase in the TB incidence, and/or better reporting. All agree that, while increasing, TB detection rates are low in the region, and there is high TB/HIV co-infection and low TB infection control both in the community and in health facilities.

Respondents reported that poor health seeking behavior is a major contributing factor to the high TB prevalence rate. Many patients first attempt a traditional self-treatment, then visit traditional healers, and then visit a holy water site. It is only when they fail to improve or their symptoms worsen that they decide to visit a health facility. This delay allows the disease to progress and promotes disease transmission within the family and community. There are also reports that some people initiate treatment themselves by buying drugs from illegal sources, and get an incomplete supply of and/or of poor-quality drugs, again increasing the chance of disease transmission and emergence of drug resistance.

Poor housing and living conditions are also cited as a contributing factor for the high transmission of TB in the region. Traditional houses lack windows, good ventilation, and adequate lighting; family size is large, leading to overcrowding, both of which expedite the transmission of TB among family members.

Other potential sources of TB infection mentioned by the respondents are related to poor TB infection control in the health facilities. Health professionals are not aware of the need for TB infection control in the facilities, nor are the facility rooms designed to prevent TB transmission. Health workers are at risk because they do not take measures to protect themselves from TB infection. This may be due to lack of ongoing practical refresher training as well as lack of infection prevention supplies and the poor facility design.

Interventions: The RHB respondents indicated the presence of programs designed to address the high TB burden in Oromia Region. These included training of health workers and program officers at all levels on TB diagnosis, treatment, and infection control; on management of supplies, drugs, diagnostic equipment and consumables; on how to provide technical support to the ZHDs, THOs, and health facilities. RHBs are also working on strengthening behavior change communication (BCC) activities at

the community level through the primary health care structure using the HEWs. In addition, the RHB also organizes forums for discussion to coordinate the activities of the various stakeholders. The coordination is aimed at avoiding duplication of efforts, maximizing the utilization of the available resources, sharing experiences, and providing support for the partners.

Regarding services rendered for TB suspects, the Oromia RHB respondents said that most patients receive services from public health facilities; very few get care from private health facilities. The respondents said that they strongly believe in engagement of the private health facilities and the immense role that they can play in TB care. Involving private health facilities gives patients an alternative place to seek care, increasing access as well as the TB detection rate. It also decreases the burden on public health facilities.

In Oromia region, they said, there are approximately 81 private health facilities consisting of hospitals and higher and middle clinics that provide TB diagnosis and TB-DOTS services. The other private health facilities identify TB suspects; some conduct a sputum exam for acid fast bacilli (AFB) and refer the patient to the nearby public or private health facility that provides TB-DOTS for final diagnosis and management.

In order to make TB services widely accessible, interviewees recommended a number of interventions. These include community TB awareness creation, effective use of HEWs in active case findings during home visits, referral of suspected cases to health centers, strengthening the health facilities capacity in TB screening, diagnosis, treatment, and infection control, as well as strengthening the TB/HIV services.

A strategy recommended by the Oromia RHB is working with the private health sector in TB service provision. Respondents believe that provision of TB services cannot be addressed by the public sector alone. The private health facilities have great potential in fighting TB, thereby increasing an alternative access for the communities. For some TB/HIV co-infected persons, accessing services at private health facilities may ensure their privacy. One of the Stop TB partnership strategies is involving the private health sector and strengthening their capacity to improve accessibility for patients. The RHB is implementing the national Stop TB strategy of strengthening PPM.

However, working with private institutions is not without challenges. For example, there are concerns about misuse of TB drugs and an exaggerated fee for TB diagnosis and treatment. Although some institutions do not charge patients for the services, others charge outrageously high amounts. As they are for-profit institutions, they have to make a profit, but it should be reasonable. At the same time, some private health facilities do not have adequate staff to provide TB-DOTS.

Logistics: The RHB is responsible for supplies and equipment for TB care. An improved RHB supply chain means that shortages of TB drugs, reagents, and other supplies are not a major issue for public health facilities. The private health facilities involved in TB program get drugs and supplies, though not equipment, through the same mechanism as that of the public health facilities.

Supportive supervision: The responsibility for supportive supervision is mainly given to ZHDs, WoHOs, and THOs. RHBs have a shortage of experts and cannot reach all the health facilities. Currently there is no well-organized supportive supervision of private facilities by any of the health offices. However, the WoHOs/THOs have included providing supportive supervision of the private health facilities in their longer-term plans, linking the private facilities to higher public facilities for referral of cases and treating them in the same manner as that of the public health facilities.

Involvement of lower clinics and drug vendors: The RHB respondents indicated that there is no formal TB service in the lower clinics and drug vendors. It is known that these entities refer TB suspected cases to the public health facilities, although there is no formal reporting and registration mechanism for TB in these lower clinics and drug vendors. All three RHB respondents said that lower clinics and drug vendors can be used in TB suspect identification and referrals. Providing technical support to lower clinics and drug vendors could help reduce the current delay in TB suspect

identification and referral. These facilities can also be enabled to provide TB-DOTS services after the patient is diagnosed in higher facilities. The advantage to this is that patients will be able to access treatment without having to travel long distances, thereby reducing their transport cost and time.

Regarding supportive supervision, the RHB does not have a direct relationship with lower clinics and drug vendors and therefore does not have experience in visiting these providers. The RHB might consider establishing a department for facility support, though not specifically for TB.

To maximize the role of these facilities in identifying TB suspected cases and referral, they need to receive training on suspect identification and BCC materials, possibly on TB-DOTS supervision. The lower clinics and drug vendors should be part of the health management information system (HMIS) so that they will be provided with recording and reporting forms.

4.1.2 ZONAL HEALTH DEPARTMENTS AND TOWN HEALTH OFFICES

Magnitude of the disease: TB experts interviewed from the 11 ZHDs and 19 THOs said that no study has been done on the prevalence, incidence, and mortality of TB in their jurisdictions and as a result, it is difficult to determine the magnitude of the disease there. Based on routine health facility reports, some respondents reported an increase in the number of cases over the years but others said that they had observed no change. Respondents did say that TB is fueled by the high HIV prevalence in their towns.

The respondents pointed out that some of the towns are in the Ethio-Djibouti high-risk corridor; Bishoftu, Dukem, Modjo, and Adama all have high rates of HIV and TB compared to other towns, and there are high rates of HIV-TB co-infection. According to a respondent from Adama, that town has more than 24,000 persons living with HIV, of which about 18,000 are registered for chronic care and 10,000 are on antiretroviral therapy (ART). Towns like Jimma and Agaro, in high cash crop areas, have large numbers of migrant laborers and commercial sex workers, who contributes to the increased spread of TB and HIV through their behaviors.

According to the head of the Arsi ZHD, the prevalence of HIV in that zone in 2000–2002 EC was 1.6 percent. The Assela THO head said that among TB patients, more than 50 percent are HIV positive. The respondents in Assela reported that the number and distribution of TB cases have decreased since 1998 EC. The HIV positivity rate has also decreased over the past according to the Assela THO. But in Modjo town, the respondents said that the absolute number of TB- and HIV-infected patients is increasing. Respondents from West Shoa ZHD and Jimma said that the increase in the number of patients registered in those health facilities does not reflect an increase in the prevalence of the two diseases. Instead, the increase could be due to improved service provision that attracted more patients, a better detection rate, expansion of HEWs' involvement in TB suspect identification and mobilizing the community, and better reporting. Generally it is difficult to speak of disease magnitude unless there is a population-based study.

Possible factors that contributed to the spread of the TB include lack of community awareness about the prevention of TB, high HIV prevalence, and increases in homelessness especially in the towns of Adama and Bishoftu, where there are large numbers of street dwellers. The large number of migrant laborers and commercial sex workers in the cash crop-producing areas of West Oromia also contribute to the high prevalence of both TB and HIV, and deep-rooted poverty contributes to TB transmission. The towns surveyed have many day laborers and factory workers with low incomes, and poor and overcrowded housing. All these factors favor the transmission of TB coupled with the high HIV prevalence in the assessed towns.

Interventions: The major activities implemented by the ZHDs, WoHOs, and THOs to tackle TB were:

- TB-DOTS services were expanded to all health centers and hospitals in the zones.
- Health facilities were better equipped with diagnostic equipment such as microscopy.
- HEWs were trained to provide better health education and promotion to the community. Some also suggested starting TB-DOTS services in health posts.
- Health workers were trained on TB.
- HEWs and community volunteers were more engaged in identifying suspected cases.
- BCG vaccination was provided.
- TB/HIV activities overall were strengthened.
- TB services were expanded to private clinics to increase case detection rate.

In Dera, the WoHO has an outreach program to collect sputum for smear microscopy when five or more TB suspected cases are reported from one area.

The interviewed ZHD, WoHO, and THO staff were highly supportive of involving the private health facilities, indicating that they are not utilized as should be. The private health facilities should be linked better with the public health system and the community structure. The advantages noted were similar to those of RHB respondents. In summary, the advantages mentioned were as follows:

- Increases the geographical access of the services to the patients;
- Shares the burden of the public facilities;
- Gives patients a choice of their own service providers.

The respondents also expressed the challenges that will be encountered in private health facilities:

- High staff turnover, which is difficult to ensure that quality services are sustained.
- Lack of adequate staff and interest in training the facility's clinical personnel.
- Too few rooms to expand to provide TB services.
- No system to trace defaulters.
- Lack of proper registration and reporting mechanisms or willingness to report periodically.
- Inadequate supervision by the ZHD or THOs.
- Weak monitoring and evaluation system.
- Lack of experience in delivering TB services, especially treatment and follow-up, because the drugs and the medical costs are free for patients.

Logistics: The respondents reported that there was no shortage of drugs or supplies except temporary shortages due to delay in distribution. THOs/WoHOs and ZHDs are responsible for providing TB drugs, reagents, and other supplies to public and private health facilities in their areas.

The private clinics that started providing TB services are linked with the TB care logistics supply system and receive recording and reporting forms, supportive supervision, laboratory reagents, sputum cups, and TB drugs.

Lower clinics and drug vendors: With regard to the availability of TB services, lower clinics and drug vendors have no reporting mechanism and the public health care system has made no effort to involve them. But the respondents assumed that lower clinics and drug vendors refer suspected TB cases to higher health facilities. They support the idea of involving the lower clinics and drug vendors in TB suspected case identification and referrals to higher facilities. Lower clinics and drug vendors do not

have the diagnostic capabilities and current regulations do not allow them to handle TB drugs and treat TB patients.

Supportive supervision: ZHDs, THOs, and WoHOs provide supportive supervision to lower clinics. The supervision is done quarterly, and in the future, TB should be made part of the supportive supervision.

Currently, the lower clinics report all their activities to the THO using the reporting form provided by the THO, but there was no specific report on TB suspected cases. Drug vendors do not report.

If the lower clinics and drug vendors are going to be involved in TB suspected case identification and possibly TB-DOTS services, support such as training and provision of forms for referral, reporting and recording are necessary. All interested stakeholders, especially NGOs working on TB/HIV, should be involved in decentralizing TB services to the lower clinics and drug vendors. The following recommendations were made by the interviewed experts:

- The involvement of lower clinics and drug vendors should be started as soon as possible to increase the TB detection rate and possibly provide TB-DOTS services through facilities that are located close to the community.
- A regular discussion forum with lower clinics and drug vendors should be created to share experiences, discuss challenges and provide technical support. There is a feeling that patients in lower clinics and drug vendors receive unnecessary treatment and referrals are delayed. The reasons could be the limited capacity of health professionals in identifying TB suspected cases or for other business purposes.
- A strategy should be designed for supporting the lower clinics and drug vendors.
- Lower clinics and drug vendors might have referred suspected cases, but there is no formal referral mechanism in place and no system for feedback between the private and public health facilities. A referral system between the private and public health care system should be designed.

4.2 INTERVENTIONS WITH LOWER CLINICS AND DRUG VENDOR OWNERS/REPRESENTATIVES

4.2.1 MAGNITUDE AND SPREAD OF TB

The health professionals interviewed in lower clinics and drug vendors said that the main health problems in the study towns are communicable diseases caused by poor hygiene, poor sanitation, and malnutrition. Diarrheal disease, respiratory tract infections, HIV, and malaria are the major health issues they see. Respondents from most towns said that many TB suspected cases also come into the lower clinics and drug vendors with complaints of cough, possibly due to TB.

However, the respondents from Dera and Assela responded that TB is not a common problem for the town population and few TB suspected cases present in their clinics and drug vendors. Drug vendor respondents from Dukem and Modjo towns said that they do not have evidence that TB is a common health problem in their area. They said patients come with prescriptions, and they sell the drugs, but they do not ask about their illness.

Most of the interviewees in the lower clinics know the presenting signs and symptoms of TB. They listed cough, night sweats, weight loss, and loss of appetite as the presenting signs and symptoms of TB. The duration of cough of a suspected TB case was given from one week to two weeks, with one respondent mentioning two months duration.

4.2.2 SERVICE DELIVERY

All the clinics and the majority of the drug vendors identify TB suspected cases and advise the suspect to go to the higher health facilities for diagnosis and treatment. Few lower clinics such as Kalkidan Lower Clinic in Bishoftu and Adama Lower Clinic in Dukem refer the identified TB suspected cases using the routine referral form for referrals of other diseases.

Based on the information provided by drug vendors and lower clinic respondents, most of their clients are those with better income; the poor usually visit the public health facilities because they cannot afford private practices. Those who choose the private clinics do so because they can afford to, and they perceive the quality of service as better, waiting time shorter, and patient treatment more respectful than in public facilities. The majority of people who develop TB symptoms and who can afford to pay usually first visit lower-level private health facilities because the majority do not know what their illness is and also do not know where TB diagnostics and treatment services are provided. These facilities refer to higher-level facilities (health centers or hospitals) if they suspect TB.

All the respondents said that there could be undiagnosed TB suspected cases despite the availability of the free service in higher-level facilities. Some of the patients consult the health facilities at a later stage of illness. Some of them first self-medicate with antibiotics. Patients usually associate a cough with the common cold or exposure to cold weather, which is known as bired.

Respondent recommendations for making TB services more accessible and for increasing the TB detection rates are the following:

- Create awareness in the community about TB signs and symptoms, diagnosis, and treatment options.
- Strengthen the HEWs' capacity in community awareness creation and TB suspect identification and referral.
- Ensure that a triage system and fast service provision mechanism is in place for TB suspects in health facilities.
- Expand the TB services in all public and private health facilities to expand geographical accessibility, and facilitate easy reach for the needy population.

As explained by all respondents, every clinic and drug vendor exist to improve the health of the community; because these providers are part of the community, their involvement in providing TB services is mandatory. Suspect identification and referral do not require extra expenses for the private facilities, and it is a way to attract clients. Some are already involved in TB suspected case identification and referral but proper networking between the public and private health facilities should be created. Involvement in such activities should be recognized and support given, such as training on TB, establishing a referral network, and having and knowing how to complete the records and reporting forms. They also need technical support from the ZHD and THO in the form of supportive supervision and regular discussion forums at which they can be updated on the latest guidelines and share experiences and challenges.

Some interviewees said that they do not report regularly except for their yearly visit to renew their license. Supervision by the WoHOs/THOs and the RHB is not planned in advance and is usually irregular.

4.3 INTERVIEWS WITH GENERAL HEALTH WORKERS IN PUBLIC AND PRIVATE HEALTH FACILITIES PROVIDING TB SERVICES

4.3.1 MAGNITUDE AND SPREAD OF TB

The health workers interviewed in both private and public health facilities said that the most common diseases they see are communicable diseases. These include respiratory tract infections including TB, diarrhea, intestinal parasitic infestations, malaria, and HIV, as well as non-communicable diseases and trauma. Nearly half of the respondents mentioned that the TB positive rate for suspects is increasing alarmingly, with most co-infected with HIV. In one example from Shashemene, 16 out of 27 smears positive cases were also HIV positive.

4.3.2 SERVICE DELIVERY

All selected health facilities reported being involved in delivering TB services such as suspect identification and diagnosis in their outpatient practices. Those without a diagnostic facility refer to health facilities with diagnostic services such as sputum microscopy, X-ray, or pathological diagnosis. Most initiate DOTS in their health facility. They provide health education and advise the TB patients to bring their family members for screening. Some public health facility workers mentioned that they were involved in providing training to HEWs.

Where do patients seek service first: All responded that most of the TB suspected cases go to public health facilities because the service in those facilities is free, and most patients are too poor to afford private facilities. Patients might also not know that some private health facilities provide TB services free-of-charge. For the same reason, HEWs and lower clinics also advise TB suspects to go to the public health facilities. Some patients believe that private health facilities provide better quality health care than the public health facilities. All agreed that a significant proportion of TB suspected cases first visit lower clinics and drug vendors as they underestimate the seriousness of the symptoms and think that they can be cured if they get antibiotics in lower clinics or from drug vendors. This delays the TB diagnosis and treatment and results in visits to diagnostic facilities only later in the course of the disease, when the case is more severe.

Presence of undiagnosed TB suspects: Most respondents agreed that there are undiagnosed TB suspected cases despite the availability of TB diagnostic and treatment services. As described above, a major reason for this is the delayed health seeking behavior of patients, who visit a health facility only when their symptoms and the disease worsen – some patients actually wait until they reach a terminal stage. Some think their cough is a minor health problem, treatable with traditional home remedies. Some try self-treatment with antibiotics before coming to health facilities.

All respondents noted that strengthening primary health care should be a priority, especially in terms of HEWs doing community mobilization for TB prevention, suspected case identification, and referrals, and then following up TB-DOTS patients as part of their home visit regimen. Respondents also suggested involving HEWs in screening family members of TB patients.

Information on private health facilities that provide TB services including TB-DOTS: In response to the information they have on service availability in private health facilities, almost all respondents knew that some of the higher and middle clinics have started providing this service. They reported the services provided by the private health facilities as good although they voiced concerns about the sales of TB drugs that are supposed to be provided to patients free of charge. They recommended close follow-up and supervision by the responsible government authorities to provide technical support and monitor the services.

TB logistics: All respondents said that THOs, ZHDs, and regional laboratories provide the necessary reagents, sputum cups, and TB drugs on a regular basis. All private health facilities said that they did not have a shortage of TB drugs, and they get supplies regularly. However, some private health facilities complained about the scarcity of lab reagents.

Reporting: All respondents said that they have a proper registration record of patients with their full address and contact person for tracking purposes and a daily tally of drugs taken. All report monthly and quarterly either to the THO or ZHD based on the reporting structure given for each area. Private health facilities supported by PHSP were reporting to PHSP in addition to the government.

Referral linkages between lower clinics, drug vendors, and higher health facilities: Almost all respondents said that there was no formal referral system or mechanism between lower clinics and drug vendors on the one hand and either public or private health facilities that provide TB services on the other hand. In some areas, public health facilities refer to higher clinics for X-ray and pathology tests. Almost all public health facilities receive referrals from HEWs in urban or rural areas using the TB referral form. Some private health facilities reported that the current referral system with public health facilities has improved after the involvement of PHSP. Public health facilities are currently open to receiving patients referred from private health facilities and private health facilities also give feedback on patients referred from public health facilities.

Supervision: All respondents said that their facilities were supervised either by the THO or ZHD depending on the reporting structure. Few reported that they are supervised by an organization such as Management Sciences for Health, the International Center for AIDS and Treatment Program, German Leprosy and TB Relief Association, and PHSP.

What should be the role of lower clinics and drug vendors in TB care: Most respondents said that their role should be in TB suspected case identification and referrals to higher health facilities. The respondents believe that they are not capable of following up patients on TB-DOTS. The reasons given are that they do not have the capacity to track defaulters, and the THOs and ZHDs cannot provide them with the necessary support because these offices are already overburdened and are not able to support the higher public and private health facilities.

To participate in TB suspect identification and referral, all respondents pointed out that the lower clinics and drug vendors need to be trained on suspected case identification and referral services. They should also be supplied with guidelines, registers, and referral forms. They also suggested creating a forum involving the lower clinics, drug vendors, medium and higher clinics as well as the public health facilities to share experiences, strengthening linkages, and discuss the challenges they face at each level. This would also help to create an understanding of each other, build confidence, and promote cooperation rather than competition.

4.4 INTERVIEWS WITH HEALTH EXTENSION WORKERS/COMMUNITY TB PROVIDERS ON TB

4.4.1 MAGNITUDE AND SPREAD OF TB

HEWs who were interviewed said that the common health problems reported include HIV, malaria, typhoid fever, intestinal parasites, and diarrheal disease. They view TB as a common health problem although it is not among the most common. In Assela and Dukem, they said TB is not a common health problem.

During their home visits they identify TB suspected cases and refer them to health facilities. In their experience, low awareness of TB, overcrowding, poorly ventilated homes, and HIV are the contributing factors for the transmission of TB. Most people attribute the signs and symptoms of TB to the common cold and cold weather referred to as bired and as a result, they do not consult health facilities until they

become critically ill. Some patients first take herbal medicines and then visit lower clinics, holy water sites, and religious leaders before they finally go to the health facility.

HEWs said that if someone presents with a cough for more than two weeks, productive sputum with or without blood, night sweats, fever, chest pain, loss of appetite, and weakness, they suspect TB and refer the person to the health facility.

4.4.2 INTERVENTIONS BY HEWS

TB is one of the 16 packages of the FMoH Health Extension Program implemented by the HEWs. HEWs provide health education on TB transmission, prevention, and suspected case identification and refer suspected cases to higher level health facilities. They also visit and screen family members of confirmed TB cases using signs and symptoms. In some areas, such as in Dera woreda, there are also volunteers who refer TB suspected cases to health posts. Some respondents also said that they visit patients taking treatment at home and follow them for adherence to treatment. They also teach family members about infection prevention.

The referral of identified TB suspected cases is usually made to the public health facilities and not to the private ones. The exception is in Adama, where they also refer to private health facilities because the service there is better and faster.

Among the 10 HEWs interviewed, four reported the presence of undiagnosed TB suspected cases, whom they witnessed during home visits in their respective towns. The TB suspected cases were treating themselves with antibiotics or herbal medicines, and they declined to follow the HEW's recommendation to check their status at a health facility.

Although TB is one of the 16 health extension packages, much attention was given for the HIV and maternal components. HEWs suggested that TB should be given more priority and implemented together with HIV. It should also be reported separately, like HIV. They suggested screening suspects during their home visits. As indicated previously, in Derra there is an outreach laboratory service if HEWs report five or more suspected cases. A TB-focused monthly outreach program is stressed by all HEWs interviewed as a means of early identification of TB suspects.

HEWs also stressed the importance of training community volunteers so that they educate the community on TB, suspect case identification, and referral. Involving private clinics and preparing a common referral form and system are also important points raised by HEWs.

Though all HEWs reported that public facilities offered all TB services, only three of them knew about the presence of private clinics in TB treatment in their respective towns. They think involvement of private clinics in TB services is encouraging as people anticipate better-quality services in private clinics rather than in public ones.

Regarding their knowledge of lower clinics and drug vendors in suspected case identification and referrals, some HEWs feel that instead of referring the TB suspected cases, lower clinics and drug vendors focus on their business interests and treat suspected cases with antibiotics. Sometimes individuals request an antibiotic from drug vendors hoping to get relief from the cough and the drug vendor doesn't advise the individual to seek diagnosis at higher health facilities.

They suggested more training on TB for HEWs as they are ideally situated in the community to teach, identify suspected cases and refer and screen the family of the TB diagnosed person.

The highest-priority TB service the HEWs suggested for lower clinics and drug vendors is suspected case identification and referral as well as teaching on prevention. Drug vendors could administer daily drugs for patients and by doing so could decrease the burden of the health center load. Some also suggested that TB drugs could be administered in lower clinics. This is because some patients prefer not to go to public health facilities, as the community associates TB with HIV in. Consequently, TB patients

who fear being labelled as an HIV patient do not want to be seen going to the public health facilities. As a result, patients default.

The HEWs also suggested that if the lower clinics and drug vendors are to be included in TB services, the FMOH should design a strategy and guidelines on their effective involvement. Support should be also given on basic training on TB, logistics, and supportive supervision. Because the lower clinics and drug vendors are established to make a profit, they have to be compensated for each case they identify and refer. Authorities should recognize lower clinic and drug vendors as an important part of the health service system and allow their staff to participate in training on suspected case identification and referral, along with staff of lower clinics and drug vendors. NGOs working on TB also should be involved in training and logistic support.

In conclusion, the HEWs suggested that all health facilities should be networked and linked without tagging them as private or public, as long as they provide the required services. Organizing a regular meeting and workshops to discuss new developments on TB, sharing experiences, and discussing challenges should be the duties of the responsible government offices.

4.5 KNOWLEDGE, ATTITUDE AND PRACTICES ON TB AMONG PATIENTS ENROLLED IN PUBLIC AND PRIVATE HEALTH FACILITIES FOR TB TREATMENT

Except for two public facilities, one in Adama and the other one in Jimma, all patients in public health facilities have no knowledge of the cause of TB. Only two patients said that TB is a bacterial disease transmitted through air. Other patients said it is a disease caused by a draft referred to as bired besheta.

Regarding transmission, almost all patients interviewed said that TB is transmitted from an infected to an un-infected person through the air via coughing and sneezing and the dried sputum spit out by the TB-infected person. Some also said sharing glasses and other household utensils used by a TB-infected person is a source of the disease.

Most patients said that in public transport, travelers do not allow the opening of windows because of the fear of the bired; therefore, it is stuffy without ventilation. They said this facilitates the transmission of TB if anyone infected with TB coughs among the passengers. There is still a deep belief among most patients that the bired causes TB. One person said TB can be transmitted through sexual intercourse but other participants in the group disagreed. There was no difference in the knowledge of TB causes and transmission between patients who were asked, whether they were from the public or private health facilities.

Participants were also asked about the signs and symptoms of TB. In most cases, the descriptions were related to their experiences. Pulmonary TB cases described cough, weight loss, tiredness, fever, sweating, loss of appetite, and chest pains. Patients with extra pulmonary TB mentioned swelling of the lymph nodes as signs of TB. Concerning the duration of cough, all said a long duration, and one patient said a cough lasting more than two weeks. Some also said the cough could have blood.

As for whether there are segments of the community more affected by TB than others, some said all segments of the population are vulnerable; others said the poor who live in poor housing and malnourished people are affected the most, while others said that the rural population, youth, alcohol addicts, khat chewers, and smokers are at higher risk. Some even believe that most people are already infected by TB, which is dormant and does not cause disease in healthy persons, but when immunity is lowered, it can be active and cause TB.

TB is described as a serious health problem that can kill unless treated early. All know it is curable if properly treated and the medicine taken as prescribed. Some said that the long duration of the treatment frustrates many patients, who stop following the treatment course when their symptoms

improve, often after only two months of the eight-month course. As a result, they relapse. All participants interviewed in the public and private health facilities said that TB is a preventable disease. Those coughing or sneezing should cover their mouth and nose with a handkerchief, other cloth, or their hands so that they do not transmit germs to people around them. TB patients should not spit, but rather, they should collect their sputum with a cup and bury it. Some also said that families should not share glasses and household utensils used by a TB-infected person. All said that patients who started on treatment do not transmit the disease after some time – this is viewed as one means of preventing TB transmission. They said one should not stop the treatment because a resistant TB strain can be created and transmitted to the community. One person said that stopping regular alcohol intake, khat chewing, and smoking while maintaining good personal hygiene can prevent TB. Others said that a balanced diet can prevent TB.

Patients said if TB treatment is taken properly without missing a dose, they can be cured of the disease. The patients expressed their experience that after they started the treatment, the symptoms subsided; they regained their appetite and felt healthy. They said that treatment lasts for eight months without interruption.

As for preference of health facility, many patients prefer the public health facilities because they feel the quality of services there is good and TB services are free. They said that the private facilities are more concerned about profit than patients' health. Others said they prefer the private health facilities because the waiting time is short and better service is offered than at the public facility. Generally, patients' opinions on health facilities depend on their ability to pay and their experiences with a specific facility. If a person visits one health facility and is not diagnosed with TB, but then is diagnosed at a second facility, then the second one is considered a better facility.

Participants were asked about the barriers to early health seeking behavior. Most said that when they fell sick, they attributed it to a common cold or tired, and they expected it to go away by itself. Many family members and friends advised them to take home remedies (e.g., garlic, herbal medications, and milk), visit holy water sites, and bathe in warm water. They visited a health facility only after these actions failed. Some said that they visited a health facility earlier, were misdiagnosed, and had to visit multiple facilities before being correctly diagnosed with TB. One participant said that when he started to cough, he thought it was HIV and therefore did not want to visit the health facility fearing that he would be tested for HIV.

Patients from Jimma and Adama knew that TB services are provided in private higher facilities. Concerning the lower clinics, some say that they do not have the capacity to diagnose TB and they do not provide TB-related services. Other said that these facilities only care about their business and want to keep the patient in their clinic by changing drug treatments rather than referring them to higher facilities with TB services. The same mixed experiences were expressed for drug vendors.

Some respondents said that it would be good for private facilities to provide TB services because this would increase access, reduce transport costs, and shorten the waiting time for examination and treatment. Others said unless there is a control system, the lower clinics and drug vendors might resort to selling different drugs, and keep patients in their clinics to get more money rather than refer them to facilities that provide TB services.

TABLE 4. NUMBER OF ASSESSED LOWER CLINICS AND DRUG VENDORS (SEE ALSO ANNEX A FOR MORE DETAILS)

Town	Lower Clinics	Drug vendors
Adama	13	56
Modjo	1	6
Dukem	2	4
Dera	3	5
Bishoftu	4	15
Asela	0	22
Shashemene	10	22
Ambo	4	15
Burayo	7	12
Jimma	1	47
Agaro	3	10
Total	48	214

5. RESULTS

PART II: AMHARA REGION

5.1 THE ROLE OF REGIONAL HEALTH BUREAUS, ZONAL HEALTH DEPARTMENTS, AND TOWN HEALTH OFFICES IN SERVICE DELIVERY

5.1.1 REGIONAL HEALTH BUREAU: MAGNITUDE OF TB AND ACTIVITIES IMPLEMENTED

Magnitude of the problem: The two TB/HIV expert respondents in the Amhara RHB said that TB is a major problem in the region. Coupled with the high HIV prevalence, the magnitude of TB is increasing. The case detection rate is estimated to be 27 percent and all respondents believe that there are TB suspects who go undiagnosed and therefore are spreading the infection in the community.

According to the respondents, the routine health facility data in Amhara, as in Oromia, show both TB and HIV diseases are on the increase. It is not clear whether the increase is because of an increase in the TB detection rate, an increase in the TB incidence, an increase in health seeking behavior of the community, or the increase in TB service accessibility. All agree that TB detection rates are low, TB/HIV co-infection is high, and TB infection control is low in both the community and in health facilities.

Poor health seeking behavior is also a major contributing factor to the high TB prevalence rate in the region. Patients try self-treatment with traditional remedies or poor-quality antibiotics purchased from illegal sources, or they visit traditional healers and holy water sites before they consult the health facilities later in the course of illness. This practice of seeking treatment in places other than health facilities that provide TB services leads to late diagnosis, encourages the transmission of TB, and increases the chance for MDR-TB to emerge.

Other contributing factors to high transmission rates were the poor housing and living conditions of the population. Traditional houses lack windows, ventilation, and adequate light, and large families lead to overcrowding, all facilitating the transmission of TB among family members.

The other potential source of TB infection is related to poor TB infection control in the health facilities. Health professionals are not knowledgeable about this, and facility rooms are not designed to prevent the spread of TB infection. Health workers are also at risk because they do not take measures to prevent themselves from TB infection. This may be due to lack of knowledge on the nature of TB infection and infection prevention (resulting from a lack of or insufficient training) as well as lack of infection prevention supplies and the poor workplace environment.

The respondents stated ... “Health workers don’t have training on infection prevention when they take sputum sample for Acid Fast Stain (AFB), on top of this the practice of providing health education messages for those diagnosed as smear positive on how to prevent the transmission of TB to others as well as screening of family members seems to be lacking. For example, they don’t screen the high risk groups for infection such as under-five-year-old children and HIV patients in the family. Overall health workers don’t screen the family of the TB patient for TB. Health workers don’t give adequate information to the patient about TB transmission.”

Interventions: The RHB respondents said that there are programs designed to address the high TB burden in their region. These include training health workers and program officers at all levels on TB diagnosis, treatment, and infection control; availability of drugs, diagnostic equipment, and supplies; and providing technical support to the ZHDs, THOs, and health facilities. RHBs are working to strengthen BCC activities for the community. The RHB also organizes forums for discussion to coordinate the activities of the various stakeholders. The coordination aims at avoiding duplication of efforts by different stakeholders, using the available resources efficiently, sharing experiences, and providing complementary support by partners.

Below is a statement made by the two RHB TB /HIV experts ...

“We provide training for zonal TB focal persons to strengthen service provision to fill any gap in knowledge among TB service providers. This includes refresher training on TB/HIV, HIV, TB, MDR-TB, and leprosy and infection prevention. We also conduct supportive supervision. There are two kinds of supervision in our region. The first is joint supportive supervision, which is coordinated between different partners and departments in the RHB and is focused on program implementation. The second type is mainly technical supervision through which technical experts provide support on the clinical and lab aspects of TB, leprosy and HIV programs. We also distribute BCC materials to zones and provide TB drugs to health facilities providing PPM-DOTS services. The RHB is also responsible for the preparation of panel discussions, coordinating and working with different partners, providing different mobilization activities through *mass media and organizing review meetings with different stakeholders.*”

Regarding services for TB suspected cases, respondents reported that most patients get services from public health facilities and a few private health facilities. The RHBs said that they support the participation of private health facilities and the immense role that they can play in TB care. Involving private health facilities gives patients an alternative choice and increases their access to care, as well as increases the TB detection rate. It also decreases the burden on public health facilities.

In Amhara, there are 61 private facilities that provide TB diagnosis and PPM-DOTS services. The other private health facilities identify TB suspected cases, and some conduct sputum exams for AFB and refer to the nearby public or private health facility that provides PPM-DOTS for final diagnosis and management.

The RHB respondents recommended a number of activities for making TB services accessible. These include: community awareness creation about TB; the effective use of HEWs in active case findings during their home visits and referrals to health centers; strengthening the health facilities capacity in TB screening, diagnosis, treatment, and infection control; and strengthening TB/HIV services.

The other strategy respondents recommended is working with private health providers in the provision of TB services. They believe that provision of TB services cannot be addressed by the public sector alone. The private health facilities can increase access to communities and increase choices. For some TB/HIV co-infected persons, accessing services at private health facilities may ensure their privacy. One of the Stop TB partnership strategies involves the private health sector and strengthens its capacity to improve accessibility for patients. The RHBs said that they follow the national Stop TB strategy of strengthening the PPM.

Concerns and challenges in working with private institutions in Amhara are similar to those mentioned for Oromia.

Logistics: The RHB periodically distributes TB care supplies, and there has been an improvement in the RHB supply chain system. Shortages of TB drugs, reagents, and other supplies to public facilities are not a major issue currently. The private health facilities involved in TB service provision also obtain their supplies through this supply chain, though in Amhara, they get only TB drugs, while in Oromia, they get drugs and reagents.

Supportive supervision: Responsibility for supportive supervision lies with ZHDs, WoHOs, and THOs. The RHB has a shortage of experts and therefore not all health facilities receive TB supportive supervision. All RHB respondents said that there is a plan to link the private sector to the public health facilities in the future.

Involvement of lower clinics and drug vendors: The RHB respondents said that there is no formal TB service provision in the lower clinics and drug vendors. It is known that they refer TB suspected cases to the public health facilities, but there is no reporting and registration mechanism for them to report the referrals. All RHB respondents said that lower clinics and drug vendors should be given training and supplies and be used to identify suspected cases of TB and do referrals. This will help to reduce delays in referring, diagnosing, and treating cases. Coordinating with lower clinics might also improve control of illegal TB drug use. In addition they can provide TB-DOTS services after the patient is diagnosed in other higher facilities. As noted above, RHBs do not do supportive supervision of lower clinics and drug vendors, nor do they visit these providers. Maybe as a RHB there may be other departments involved in supervising these facilities, since there is no one designated exclusively to cover TB.

To maximize their role in TB suspected case identification and referral, these facilities need to receive training on suspected case identification, BCC, and the magnitude of the problem. They also need to be included in HMIS reporting and given the proper recording and reporting forms.

5.1.2 ZONAL HEALTH DEPARTMENTS AND TOWN HEALTH OFFICES

Magnitude of the disease: According to ZHD, THO, and WoHO respondents, the burden of TB is high in their respective areas and MDR-TB is an emerging issue. One of the contributing factors for TB is the high HIV prevalence in the region. Respondents said that in their opinion, the increase in TB and HIV is geographically uneven, increasing in one area and decreasing in another.

Besides the high TB-HIV co-infection rate, other factors that contribute to the TB burden and/or low case detection rates include: malnutrition; availability of illegal and inappropriate TB drugs in the open market where patients buy and take without subscription and which feed into increasing MDR-TB; poor geographical accessibility of TB care facilities to the rural community; practices and preferences of the community in seeking TB treatment in places other than health facilities; and poorly ventilated and crowded living conditions. Delay in diagnosis is also due to the fact that patients visit holy water sites and traditional healers and only come to health facilities when these measures fail to bring a cure. Low infection prevention practices among patients also facilitate the transmission of TB within families and the community.

Interventions: ZHDs, THOs, and WoHOs have designed several strategies to curb the spread of TB. The first is creating awareness in the community for early health seeking behavior and decentralizing awareness creation and screening of suspects to the health posts. The second is to strengthen TB services in all health centers and hospitals and involve all private facilities. Some private health facilities are already providing services, and there is a plan to expand to those that are not yet involved. The third strategy is to strengthen the internal and external referral system both for public and private health facilities. To apply these strategies, building capacity of public and private sector health workers including HEWs, is needed so that TB screening and referral will be strengthened at the primary health care level. Supply of drugs, reagents, and equipment is mandatory to expand the services for both public and private health facilities.

Currently some private health facilities provide all TB care services including treatment and others provide suspected case identification, laboratory diagnosis, and referral.

The respondents said that there are undiagnosed TB suspects in their respective zones and towns. Low awareness by the community is a key factor preventing them from seeking out diagnosis and treatment. Accessibility is another factor for patients residing far away from the diagnostic facilities. To increase service access, TB services must be expanded to additional private health facilities. This will give patients more facility choices. It may also help to control the availability of illegal TB drugs and decrease the patient load at the public facilities. But this is not without challenges. Some private health facilities are for profit and as such are more concerned with maximizing their profit; as a result they may not comply with the national guidelines intended to ensure quality services. Some are understaffed and have high staff turnover, making it difficult to sustain well-trained quality service provision.

Concerning consistency of TB care logistic supply, everyone said that the overall supply system is good. However, recently there have been problems in supplying some TB drugs. “Recently there is a problem in getting some TB drugs like RHZ for children in West Amhara and STM in Deber Birehan.” The same reason was given for TB care logistic supplies to private health facilities. According to the respondents, there are no challenges in linking the private sector with the existing logistic system. They said that the private sector also receives supportive supervision similar to public facilities.

Lower clinics and drug vendors: All the respondents said that lower clinics and drug vendors were not used well in TB services. However, lower clinics were referring suspected TB cases although there was no formal referral system between the lower clinics and the public and private higher health facilities. According to the respondents, the most important priority for TB services to be implemented in lower clinics and drug vendors is TB suspected case identification and referral.

Supportive supervision: In some areas, lower clinics are supervised by THOs, some in other areas by ZHDs, and in still other sites jointly. In Bahir Dar town, lower clinics and drug vendors are supervised by the ZHD and submit their reports to the ZHD every quarter. The reports by these lower-level health facilities are not regular in the assessed areas.

To maximize the role of lower clinics and drug vendors in TB suspected case identification and referral, respondents suggested providing them a support package of training, guidelines, reporting and referral forms, as well as regular supportive supervision.

5.2 INTERVIEWS WITH LOWER CLINICS AND DRUG VENDOR OWNERS/REPRESENTATIVES

5.2.1 MAGNITUDE AND SPREAD OF TB

Most of the respondents from lower clinics reported that respiratory tract infections, malaria, and TB are the major health problems in their respective areas. Others said that skin diseases, sexually transmitted infections, typhus, and injury cases are among the major health problems. All respondents from lower clinics said that TB is an important health problem in their day-to-day practices.

Both the lower clinics and drug vendors said that they are not directly involved in TB diagnosis and treatment, but that they refer TB suspected cases. The respondents suspect TB if a patient presents with a cough of two weeks, whether it is non-productive or productive with blood or purulent sputum, and with excessive sweating, loss of appetite, and weight loss.

5.2.2 SERVICE DELIVERY

The lower clinics indicated that when they refer a suspected TB case to higher-level health facility for further investigation and management, patients make their own decision whether to a private facility or public health facility based on personal preference and ability to pay. The respondents pointed out that

most people believe that private facilities offer better-quality health services and shorter waiting times than do public facilities. However, some respondents said that most people prefer to visit public health facilities if TB is suspected because most people believe that TB services are provided only in public facilities.

Even though there is no formal referral system in place, the lower clinics in the assessed towns refer TB suspected cases to nearby public and private health facilities that provide TB services. Some towns do not have private health facilities that provide TB services.

All the lower clinics indicated their willingness to participate in the provision of TB services, provided that they receive the necessary technical and logistic support from the government or other partners working in this area. The lower clinics and drug vendors also suggested that the government authorities conduct regular supportive supervision and create forums of discussion between the public and private health facilities to share experiences, and create linkages and mechanisms to support each other.

5.3 INTERVIEW WITH GENERAL HEALTH WORKERS IN PUBLIC AND PRIVATE HEALTH FACILITIES PROVIDING TB SERVICES

Magnitude and spread of TB: According to the respondents, the most common diseases they see in their practices are respiratory tract infections including TB, intestinal parasite infestations, sexually transmitted infections, HIV, acute febrile illness, and other communicable diseases. The majority of the workers said that TB is an important health problem; one of the reasons they cited the high HIV prevalence in their areas is high incidence of co-infection.

Service delivery: Most of the public facility respondents said that there is an integrated TB program – all TB care services including diagnosis and treatment are offered in their facilities. There is also an outreach TB education program conducted by HEWs in most areas, and the HEWs refer suspected cases to public health facilities for provision of TB services. The respondents added that most TB suspected cases visit public health facilities because TB services are free-of-charge, and they receive quality TB services. In contrast, the private health facility respondents said that most people prefer the private facilities, because the laboratory service is better, and patients see specialists easily.

Responses were mixed about the presence of undiagnosed TB in the community. Some respondents said that they don't think there is undiagnosed TB in the community because the awareness of TB is high. Others said that there could be undiagnosed TB cases because not all members of the community are aware of TB symptoms, and there is no mechanism for screening all contacts of a TB patient.

In order to make TB services more accessible, the respondents suggested that it would be good to train the HEWs so they can improve the awareness among community members and to screen suspects based on signs and symptoms of TB. They also suggested screening all household contacts of a confirmed TB patient and expanding the service to additional public and private health facilities.

Public sector respondents voiced mixed opinions on the quality of services provided by the private health facilities. Some said that the private facilities provide good-quality services, while others said the private facilities do not allocate enough time to counsel their patients. A respondent in Bahir Dar said that....“Private clinics like Gambi Higher Clinic, Alem Saga Higher Clinic and Kidane Mihiret Higher Clinic provide TB services. These clinics have a large number of patients and a smaller number of professionals. Therefore, they don't have time to follow and provide proper counseling to their TB patients.” But most respondents are in favor of the idea of expanding TB services to private clinics. Private facilities that offer TB services are providing treatment services for free; they do charge for sputum examination and X-ray.

All respondents confirmed that they get TB supplies from the ZHD or THO, usually on a monthly basis. Some respondents from private facilities said that they get their supply only when they have a shortage based on their patient flow.

According to the respondents, there is a registration book in all facilities. The facilities register all patients and send a report every quarter to the THO. Most respondents of higher clinics and health centers indicated that they have a good referral linkage with both public and private facilities, but they did not have experience with any referral network for drug vendors and lower clinics.

There is a consensus among the general health workers interviewed that lower clinics and drug vendors do not have enough capacity and skills to identify TB suspected cases. They might refer TB suspected cases but they do not have a formal referral network. The most important service that should be expected from the lower clinics and drug vendors in the future should be TB suspected case identification and referral. To play these roles, respondents suggested that personnel working in these establishments receive training on TB symptoms and signs as well as suspected case identification.

All respondents said that the THOs are responsible for supervising both the public and private health facilities. Some private health facilities also said that in addition to the government, PHSP was supervising the facilities the project supports.

Finally the respondents suggested establishing a regular forum that would bring all the public and private health facilities together to discuss TB-related issues and share experiences.

5.4 INTERVIEWS WITH HEWS/COMMUNITY TB PROVIDERS ON TB

TB is one of the 16 FMOH Health Extension Program packages implemented by HEWs. HEWs provide health education on TB transmission, prevention, suspect identification, and referral of suspects to higher health facilities. They also do home visits and screen family members of confirmed TB cases using signs and symptoms. Some respondents said that during regular home visits, where there is an individual on TB treatment, the HEW will follow up to check on adherence to treatment and to teach the family members about infection prevention.

TB suspected cases identified by HEWs are usually referred to the public health facilities, mainly because the service is free there. Sometimes they refer to the private health facilities depending on the patient's preference. Some patients prefer the private facilities because they think the service quality is better and the waiting time is short.

Responses on the issue of existing undiagnosed TB patients is mixed. Some respondents said that during home visits they have encountered individuals suspected of having TB who did not seek health care; others said they have not encountered such persons. The respondents who claim to have seen TB also said that some people with signs of TB were treating themselves with antibiotics or herbal medicines and refused to check their status in health facilities even when they were advised to do so.

HEWs also suggested that training volunteers to assist in TB suspected case identification using symptoms and signs and creating awareness among the community members is crucial. Due to their workload, HEWs cannot reach their entire catchment population.

All respondents were supportive about involving private clinics and drug vendors in TB suspected case identification and referral. They also emphasized the need to provide ongoing capacity building and supportive supervision to these facilities.

Regarding their knowledge of lower clinics and drug vendors in suspected case identification and referrals, some HEWs feel that lower clinics and drug vendors first take care of their business interests and treat TB suspects with antibiotics rather than referring them. Sometimes individuals request an

antibiotic from a drug vendor hoping to get relief from their cough, and the drug vendor doesn't advise the individual to seek further diagnosis at a higher-level health facility.

HEWs suggested that they need additional training on TB because they are ideally situated in the community to teach, identify and refer suspected cases, and can better screen the family of the person diagnosed with TB .

HEWs suggested that the first priority for TB services at lower clinics and drug vendors is suspected case identification and referral services as well as teaching clients about prevention. Drug vendors could administer daily drugs for patients and by doing so decrease the burden on health centers. Some suggested that lower clinics and drug vendors could administer the TB drugs. The justification given was that some patients prefer not to go to public health facilities because the community associates TB with HIV, and consequently, TB patients fear going to public health facilities. As a result, patients default because they do not want to be seen daily in the public health facilities.

5.5 KNOWLEDGE, ATTITUDES AND PRACTICES ON TB AMONG PATIENTS ENROLLED IN PUBLIC AND PRIVATE HEALTH FACILITIES FOR TB TREATMENT

Some patients said that TB is a bacterial disease transmitted through the air while others said it is a disease caused by drafts (bired).

Concerning transmission, almost all said that TB is transmitted from an infected to an uninfected person through the air, by coughing and sneezing and/or from the dried sputum spit out by a TB-infected person. Some also said that sharing drinking glasses and other household utensils used by a TB-infected person can help spread TB. Most patients said that in public transport, it is hot and stuffy, since passengers do not allow windows to be opened because of the fear of drafts. In particular, the coughing of TB-infected passengers facilitates transmission among the other passengers. There was no difference in the knowledge about TB causes and transmission among patient respondents who participated from the public and private health facility interviews.

Respondents were also asked about the signs and symptoms of TB. Cough, weight loss, tiredness, fever, sweating, loss of appetite, chest pains, and swelling of the lymph nodes were mentioned. All indicated that if coughing persisted for more than two weeks that this could be TB. Some also said the cough could be bloody. Different respondents suggested that specific population groups are more prone to contracting TB because of factors that expose them to TB – these include the poor who do not have proper housing, the undernourished, people addicted to khat or alcohol, and smokers.

As in Oromia, respondents in Amhara described TB as a serious health problem that can kill unless treated early. But all know that if properly treated and the treatment drug is taken as prescribed, TB is curable. All participants in the public and private health facilities interviewed said that TB is a preventable disease. Those coughing or sneezing should cover their mouth and nose with a handkerchief, a cloth, or their hands so as to not transmit their germs to the people around them. TB patients should not spit; rather they should collect their spit with a cup and bury it. Some also said that families should not share drinking glasses and other household utensils used by a TB patient. They said one should not default from the treatment regimen as this can help to create a resistant strain of TB that is transmitted within the community. Respondents said that if TB treatment is taken properly without missing a dose, it can cure the disease. The respondents shared their experience that after they started the treatment, the symptoms subsided; they regained their appetite and felt healthy. They said that treatment is for eight months without interruption. Some also know that there has been a change in the treatment regimen from eight months to six months.

There is no one answer with regard to preference of health facilities. Among those interviewed, many seem to prefer public health facilities because the quality is considered to be good, TB services are free,

and they believe that private health facilities are more worried about making a profit than about the health of the patient. Others said they prefer the private health facilities because the waiting time is short and attention better. Generally the opinions on the preference of health facilities are dependent on the individual's ability to pay. It is also dependent on the experiences of the patient with specific health facilities.

Respondents were asked about the barriers to visiting health facilities at an early stage, and most said that when people fall sick, it is usually attributed to a common cold or draft and they are expected to get better without any special treatment. Families and friends often advise taking home remedies such as garlic, herbal medications, milk, and holy water, and bathing in warm as well as cold water. The ill individuals finally visit health facilities after all these actions fail, and their disease gets worse. Some patients interviewed also said that even when they visited a health facility early in their illness, they were misdiagnosed and had to visit different health facilities to finally be diagnosed with TB. They also said that some patients are reluctant to go to the health facilities because they associate TB with HIV and fear the facilities will test them for HIV.

**TABLE 5:NUMBER OF ASSSSED LOWER CLINICS AND DRUG VENDORS
(SEE ALSO ANNEX A FOR MORE DETAILS)**

Town	Lower Clinics	Drug vendors
Debre Brehan	4	6
Kombolocha	12	2
Dessie	10	32
Haik	2	0
Debre Markos	7	13
Burie	3	3
Bahir Dar	9	52
Gondar	14	40
Total	62	148

6. DISCUSSION

The Stop TB partnership strategy aims to reduce the prevalence and death rates from TB by 50 percent from their levels in 1990. The six major components of the strategy are: (i) pursue high-quality DOTS expansion and enhancement; (ii) address TB/HIV, MDR-TB, and the needs of the poor and vulnerable populations; (iii) contribute to health system strengthening based on the primary health care model; (iv) engage all types of health care providers; (v) empower people with TB information and knowledge, and communities through partnership; and (vi) enable and promote research (WHO 2006). PHSP supports the Government of Ethiopia in achieving the Millennium Development Goal 6, Combat HIV/AIDS, Malaria and Other Diseases. One of its support areas is to involve all public and private health providers through PPM. This assessment is aimed to provide a situation analysis to strengthen PPM and especially to decentralize the services to the lower clinics and drug vendors.

There is a general consensus among all interviewees, from the RHBs to HEWs, and among both public and private health facility health workers, that TB is a major health problem in the towns that were assessed and in their catchment areas. Private hospitals, higher clinics, and medium clinics in Amhara and Oromia Regions are already involved in the TB PPM-DOTS program. Their contribution to the Stop TB partnership is well recognized by all who participated in this assessment, including patients. Most of the time, those who can afford to pay prefer to visit a private health facility first for any health care need.

In one study conducted in India, about two-thirds of the TB patients visited private practitioners when they first developed chest pains, and more than half were diagnosed by private doctors (Uplekar et al, 1996, Uplekar et al, 1993, Juvekar et al, 1995). Although private facilities' contribution was appreciable, participants also mentioned that some private facilities charged high fees and a few mentioned that some private facilities sold the free drugs. In a study in the Nigerian state of Kaduna, private health facilities adhered to national guidelines and had a higher TB patient caseload and better treatment outcomes than did the public health facilities (Gidado and Ejembi 2009). Generally even though there is confidence in the quality of TB services in health facilities providing those services, there may be a conflict between sustaining their business and providing free services. A better supervision and composition strategy for the services they provide may be required.

The views expressed by many respondents regarding the lower clinics and drug vendors in this assessment are that most of the health workers try different medications with their patients and want the patient to return to try new treatment regimens. They do not want to refer immediately. This could be to keep the patient for a longer time and earn more income, or they might not have the capacity to identify the TB signs and symptoms for appropriate referral. The analysis from the discussions is that the participants from RHBs, HEWs and patients agree that involving lower clinics and drug vendors increases access to TB services, increases the TB detection rate, and minimizes patients' indirect costs of transport and time. But these providers need further capacity building in this area; they also need registers and report forms, and respondents suggested creating common forums to share experiences, discuss challenges, and harmonize the services provided by the different levels of health facilities. A concern raised in the discussion was that there will be a heavy load on the part of THOs, WoHOs, and ZHDs to supervise and provide needed supplies to lower clinics and drug vendors.

Several factors determine patient choice of private versus public health facility: ability to pay, quality of service, length of waiting time, and the respect and attention given to patients by facility workers. The public facilities have longer waiting times; the quality is often said to be poorer as compared to private facilities; and health workers usually do not show the required respect and attention to patients. Having

the choice of health facilities is important for the TB program and participants recommended expanding to the private facilities. But they stressed that the expansion should be accompanied by appropriate and sufficient support and control systems.

The barriers to going to a health facility at the onset of early TB signs and symptoms have mostly to do with cultural beliefs, as indicated in the report above. Those who become ill first try home remedies, take herbs, visit holy water sites, try different antibiotics and after all else fails, they visit a health facility. In this assessment, half of pulmonary TB patients delayed seeking health care at a public health facility while getting treatment from informal sources.

In a study conducted in Tigray region, waiting 30 days or longer before seeking services at a public health facility was considered a delay (Mesfin et al, 2009). In another study in the Somalia region, the median patient delay was found to be 60 days with a range of 10–1,800 days (83 days for nomadic pastoralists and 57 days for agro-pastoralists). The median health care provider's delay was six days and the median total delay was 70 days in this study. Patient delay constituted 86 percent of the total delay. Low biomedical knowledge, and distance to health facilities were the two major factors for patient-related delays (Gele et al, 2009). Patients complained that even if they visit a health facility of any level, their diagnosis is not made at their first contact. This is also considered a factor for delay in treatment. In another TB study in Amhara, a majority of TB suspected cases and pulmonary TB suspected cases had already taken health care actions for their symptoms at the time of the survey (Yimer et al, 2009). In yet another study, delays in the diagnosis and treatment of pulmonary TB were unacceptably high. Health providers' and health systems' delays represented the major portion of the total delay (Yimer et al, 2005). The reasons could be that the health facilities might not have diagnostic services, quality may be poor, or the diagnostic algorithms were not followed.

The other major finding in this assessment concerns the referral linkages between the public and private health facilities as well as between private health facilities themselves. The public health care referral network system is clear, even though it is challenged in its implementation. A patient theoretically starts at the primary health care level, is then referred to the secondary and tertiary levels, but this referral network is weak and its application is challenged because of lack of clarity and monitoring of the referral system. The private health facility referral network between private-public, public-private, and private-private, was not clear in this assessment. Navigation chains for TB patients in this assessment differ from patient to patient. Some start with traditional medicine, holy water sites, or home remedies and others start at lower clinics, drug vendors, or higher public and private health facilities. Even after they start at the health facilities, the referral linkages are not designed well to shorten the delay in diagnosis. The line of referral clarity is worse among private health facilities.

In a study conducted among cancer patients in Tikur Anbessa Hospital, the navigation lines for patients are long and sometimes not clear. The lack of clarity is found to be the cause of delay in diagnosis for breast cancer patients (Dye et al, 2010). In another study, which analyzed the referral papers sent to the Tikur Anbessa tertiary referral hospital, the referrals were poorly documented and information use and feedback mechanisms by health professionals were weak. There were no operational guideline and no proper monitoring system of the referrals (Abate and Enqueselassie, 2010).

In this assessment there was no guideline for lower clinics and drug vendors with regard to where to refer patients. They advise the patient to go to the nearest health center or hospital, but they do not provide a referral slip or say why the patient is referred and what service was initially given. It seems that the referral linkage of private health facilities is not systematized and clearly requires a guideline.

The lack of clear referral lines will delay the diagnosis and increase the cost for the patient. In a study in Ethiopia, Patients' mean days elapsed at alternative care providers and public health facilities were 5 and 3 days respectively. The total median cost incurred, beginning with the first consultation to the point when diagnosis was finally made was \$27 per patient (mean = \$59). The median costs incurred by each

patient, escort, and the public health system were \$16 (mean = \$29), \$3 (mean = \$23), and \$3 (mean = \$7) respectively (Mesfin et al, 2010). The lack of clear referral linkages for private facilities was also a cause of under-utilization in the assessed towns.

The referral link between the HEWs and the private health facilities is not clear. HEWs could have referred patients to private health facilities, if the referral guideline was laid out clearly. The referral to a private facility can result from the patient's choice or due to proximity to where the patient resides. Using a private facility can also reduce the load at the public health facility and can shorten the diagnosis time. Creating a link between private health facilities and HEWs also helps track patients who defaulted in their treatment. If TB-DOTS services are decentralized in the future, the private health facilities should be linked with HEWs for patient referral and to facilitate following up on patients in their home.

Most of the patients who participated in the FGD have no knowledge of the cause of TB but most know the preventive measures for TB. There are also some misconceptions on the transmission, believing that it results from a strong association with drafts. The findings show that patients were not well counseled while they were on treatment. They would and should have known everything about their disease, if it had not been for poor counseling.

7. CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION

In conclusion, all respondents believe that TB is a major public health problem affecting the community. All believe that the neediest populations have not been reached and there are undiagnosed TB cases in the community. Low health seeking behavior, low awareness and lack of knowledge about the disease, and lack of access to health services are the major challenges that require a strategy and implementation plan to address the high TB prevalence and low case detection in the country. One of the strategies proposed is involving all public and private health facilities to increase accessibility, reduce the workload of the existing TB-service-providing health facilities, and increase the patient's choice of health facilities. The other strategy is strengthening the HEWs, lower clinics, and drug vendors in awareness creation, and identifying and referring TB suspected cases. Building the capacity of all levels of health facility staff including the private facilities and HEWs is also proposed. Creating common public-private health facilities forums are also suggested to share experiences, strengthen the referral networks, and enhance mutual support for one another.

7.2 RECOMMENDATIONS

As a result of this assessment, the following recommendations are proposed:

1. Expand TB services to all public and private health facilities, including lower clinics and drug vendors, to increase accessibility. The recommendation for involving lower clinics and drug vendors is in awareness creation, suspected case identification, referrals, DOTS service provision, supervision, and follow-up.
2. Build the capacity of private health facilities including lower clinics and drug vendors by training their health workers and provide guidelines, registers, and reporting forms.
3. Support the private facilities with equipment, reagents, and supplies.
4. Design a referral mechanism between the private-public as well as private-private health facilities.
5. Strengthen HEWs' capacity and working relationship with the private health facilities in awareness creation, referrals, and even tracking TB-DOTS defaulters.
6. Train community volunteers who will assist the HEWs in mobilizing the community on TB screening, prevention, and treatment.
7. Create a regular discussion forum between the public and private health facilities that will be chaired by the THOs. The forum should include HEWs.

ANNEX A: LIST OF HEALTH FACILITIES AND DRUG VENDORS

SUMMARY OF DRUG VENDORS IN ADAMA, MOJO, DUKEM, DERRA, BISHOFTU, ASSELA AND SHASHEMENE TOWNS

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
1	Adama	Shewa Pharmacy	Abera Agersa	Kebele-12	0911 25 34 31	1	1	0	0
2	Adama	Betel No.2 Drug Store	Hiwot Belete	Kebele-04	0911 82 85 04	0	2	0	0
3	Adama	Senbona Drug Store	Siyum Tura	Kebele-12	0911628528/0920000085	0	1	0	0
4	Adama	Abreham Drug Store	S/r Kidist Abreham	Kebele-12	0911 97 79 44	0	1	0	0
5	Adama	Noad Pharmacy	Alemayehu Dade	Kebele-12	0911 76 81 54	1	1	0	0
6	Adama	Balewold Drug Store	Shashework	Kebele-12	0911 90 11 59	0	3	0	0
7	Adama	Girma Drug Store	Girma Tolera	Kebele-12	0911 25 35 69	0	1	0	0
8	Adama	Gudiru Drug Store	Beletech File	Kebele-12	0911 01 91 84	0	1	0	0
9	Adama	Tedy Pharmacy	Tewodros Worku	Kebele-19	09 11 84 14 25	1	1	0	0
10	Adama	Azariya Drug Store	S/r Tadikan G/hiwot	Kebele-19	0911 84 26 39	0	1	0	0
11	Adama	Shalom Pharmacy	Wondeson Negusie	Kebele-12	09 11 25 31 10	1	2	0	0
12	Adama	Alemayehu Drug Store	Alemayehu Adugna	Kebele-12	0912 05 95 95	0	1	0	0
13	Adama	Public Drug Store	Sisay Tenker	Kebele-12	0912 26 44 03	0	2	0	0
14	Adama	Finfine Pharmacy	Meseret Alemu	Kebele-19	0913 57 43 30	1	4	0	0
15	Adama	Adama Drug Store	Alemayehu tesfaye	Kebele-19	0911 36 13 30	0	3	0	0
16	Adama	Ephrem Pharmacy	Yosef Haressa	Kebele-12	0911 36 13 30	1	2	0	0
17	Adama	Fentale Pharmacy	Hussien Boru	Kebele-19	0911252766/0221124488	1	2	0	0
18	Adama	Rohobot No.2 Drug Store	Yosef Deressa	Kebele-10	022 111 85 74	0	3	0	0

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
19	Adama	Loza Drug Store	Fantu kassaye	Kebele-03	0913 67 79 46	0	1	0	0
20	Adama	Aab Drug Store	Hirut Mulugeta	Kebele-12	0911 84 28 34	0	1	0	0
21	Adama	Betelehem Pharmacy	Abdissa Beyene	Kebele-04	022 112 70 70	2	1	0	0
22	Adama	Nahom Drug Store	Selamwit Guta	Kebele-04	0911 35 59 27	0	1	0	0
23	Adama	Melka Drug Store	Meseret Gosaye	Kebele-04	0922 66 61 27	1	0	0	0
24	Adama	Amazone Drug Store	Amani Abdella	Kebele-04	0911 79 17 07	0	1	0	0
25	Adama	Time Pharmacy	Alemayehu Dabba	Kebele-12	0911 88 93 39	1	2	0	0
26	Adama	Nati Drug Store	Hirut desta	Kebele-12	0911 90 37 55	0	2	0	0
27	Adama	Cheffe Drug Store	Degu Demissie	Kebele-12	0911 70 52 71	0	3	0	0
28	Adama	Yobel Pharmacy	Yonas tsegaye	Kebele-12	022 111 43 70	1	3	0	0
29	Adama	Abenezzer Pharmacy	Dagmawi Bekele	Kebele-15	0911683914/0221114742	1	1	0	0
30	Adama	Enat Drug Store	Tsegereda Bekele	Kebele-12	0913 29 47 84	0	2	0	0
31	Adama	Bereket Drug Store	Zelalem Amare	Kebele-12	0911843618/0221124140	0	1	0	0
32	Adama	Rohan Drug Store	Dr. Zenit Getahun	Kebele-12	0911 40 51 03	0	1	0	0
33	Adama	Betel Drug Store	Hiwot Belete	Kebele-12	0911 82 85 04	0	1	0	0
34	Adama	Geda Drug Store	Deggu Demissie	Kebele-12	0911 70 52 71	0	2	0	0
35	Adama	Shalom Pharmacy	Wondeson Nigussie	Kebele-12	0911253110/0221112902	1	2	0	0
36	Adama	Nazreth Drug Store	Getuma Mediqsa	Kebele-12	0911601978/0221128024	0	3	0	0
37	Adama	Kidus Yosef Drug Store	Shiferaw Mamo	Kebele-07	0911253842/0221121745	0	1	0	0
38	Adama	Efrem Pharmacy	Girma Sinbetu	Kebele-06	0912037610/0221112717	1	2	0	0
39	Adama	Mebrate Drug Store	Mebrate Belhu	Kebele-06	0911 36 46 87	0	1	0	0
40	Adama	Discount Drug Store	Tesfaye Yilma	Kebele-06	0911008093/0911628557	0	2	0	0
41	Adama	Surafel Drug Store	Assegid Laike	Kebele-04	0911 75 15 72	0	1	1	0
42	Adama	Amen Drug Store	Abebu Fetene	Kebele-13	0912 23 69 70	1	0	0	0

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
43	Adama	Haleluya Drug Store	Tigist Kassa	Kebele-12	0911946042/0221127619	0	3	0	0
44	Adama	Adama Red Cross Pharmacy	Kumssa Hailemariam	Kebele-10	0911775762/0221113813	2	2	0	2 (diploma nurse)
45	Adama	Rift Drug Store	Lensa Paulose	Kebele-12	0911253679/0221127083	0	1	0	0
46	Adama	Beza Drug Store	Meseret Fasil	Kebele-12	0911097276/0221111690	0	1	0	0
47	Adama	Woyine Drug Store	Dr.Ayfokiru Bogale	Kebele-04	0911613714/0221120337	0	2	0	0
48	Adama	Misirak Drug Store	Gutema Mediqsa	Kebele-10	0911 60 19 78	0	2	0	0
49	Adama	Yomis Drug Store	Ashrefa	Kebele-07	0920 07 39 93	0	1	0	0
50	Adama	Bole Drug Store	Dr.Fikiru Abebe	kebele-04	0911771805/0221111231	0	2	0	0
51	Adama	Tadesse Drug Store	Samson Tadesse	kebele-04	0911 45 32 35	0	1	0	0
52	Adama	Kidus urael Drug Store	Tewabetch Tekele	kebele-18	0911 25 28 92	0	1	0	0
53	Adama	Mulu Drug Store	Mulunesh Birhanu	kebele-10	0911 94 33 09	0	1	0	0
54	Adama	Joe Drug Store	Endalkachew Zewde	kebele-10	0912 87 31 94	0	1	0	0
55	Adama	Abel Drug Store	Getahun Gezahegn	kebele-07	09 11 38 57 99	0	1	0	0
56	Adama	Medhin Drug Store	Dr.Derbe G/giorgis	kebele-04	0911 25 35 62	0	2	0	0
58	Mojo	Sisay Drug Store	Atsede Mekonnon	Kebele-02	0911649249/0221161183	0	2	0	0
59	Mojo	Betel Drug Store	Kasech Biftu	Kebele-02	0911843070/0221160182	0	2	0	0
60	Mojo	Zemzem Drug Store	Sisay Alemu	Kebele-02	0911001732/0221162233	0	2	0	0
61	Mojo	Ayehu Drug Store	S/r Ayehu Birele	Kebele-01	0922286352/0221161329	0	1	0	0
62	Mojo	Saron Drug Store	Mesfin Hailu	Kebele-02	0911 25 34 26	0	2	0	0
63	Mojo	Mandella Drug Store	Sisay Ayansa	Kebele-02	0911768729/0221160146	0	1	0	0
64	Dukem	Enat rural drug vendor	Yared Gosa	Dukem town	0911 70 96 44	0	1	0	0
65	Dukem	Mina Drug Store	Mohammed Yasin	Dukem town	0911883850/0913317122	0	2	0	0
66	Dukem	Tesfaye Drug Store	S/r Awetash Ayalew	Dukem town	0911014137/0114320019	0	1	0	0
67	Dukem	Dukem Drug Store	Niguse Zerihun	Dukem town	0911 71 80 14	0	1	0	0

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
68	Derra	Derra No.1 Drug Store	Habtemariam Dinsa	Derra town	0911629878/0223330184	0	1	0	1 (diploma nurse)
69	Derra	Derra No.2 Drug Store	Misha Waritu	Derra town	0911 92 30 94	0	2	0	0
70	Derra	Wubalem rural drug vendor	Kassa Shoro	Derra town	0911 90 82 76	0	0	0	1 (diploma nurse)
71	Derra	Dodotta Drug Store	Helen Wakjira	Derra town	0911 38 49 57	0	1	0	0
72	Derra	Afel Drug Store	Ture Ahimed	Derra town	0911309891/0223330146	0	1	0	0
73	Bishoftu	M.T Pharmacy	Mazengia Kebede	Kebele-04	011 433 17 72	1	2	0	0
74	Bishoftu	Kidus Giorgis Pharmacy	Dagnachew Hibistu	Kebele-04	0911211494/0114338772	1	1	0	0
75	Bishoftu	Genet Pharmacy	Semaynesh Kiros	Kebele-04	011 433 26 75	1	1	1	0
76	Bishoftu	Redcross Pharmacy	Hanna Godanna	Kebele-04	0912836996/0114338731	1	3	0	0
77	Bishoftu	Lidya Drug Store	Alemu Haile	Kebele-01	0911 88 57 62	0	1	0	0
78	Bishoftu	Farees Drug Store	Getachew Yiftu	Kebele-01	0911400330/0114337612	0	2	0	0
79	Bishoftu	Kidist Mariam Drug Store	Meseret Hailu	Kebele-05	0911300508/0114337575	0	2	0	0
80	Bishoftu	Amanuael Drug Store	Dr.Amanuel Hailemariam	Kebele-04	0911 84 20 42	0	1	0	0
81	Bishoftu	Adea Drug Store	Hailemariam Alemayehu	Kebele-06	0910247697/0114338123	0	0	1	1 (health assistant)
82	Bishoftu	Qulebi Gebrael Drug Store	Mekonnon Wondimu	Kebele-06	0911771080/0114339258	0	2	0	1 (health assistant)
83	Bishoftu	Kidus Rufael Drug Store	Tesema Manhale	Kebele-04	0911400143/0114331109	0	2	0	0
84	Bishoftu	Handa Drug Store	Anni Tilahun	Kebele-02	0912006886/0922023190	0	3	0	0
85	Bishoftu	Bishoftu Drug Store	Betelehem Takele	Kebele-04	0913986984/0911601978	0	1	0	0
86	Bishoftu	Hana Drug Store	Hailu Demau	Kebele-08	0911 14 95 39	0	1	0	0
87	Bishoftu	Yosef Drug Store	Tizita Alemayehu	Kebele-07	0910248239/0114332053	0	1	0	0
88	Assela	Girma Pharmacy	Girma Beshah	kebele-06	0911841650/0223312023	1	1	0	0
89	Assela	Alazar Pharmacy	S/r Serawit Mezleqia	kebele-07	0911331315/0223318115	1	0	0	0
90	Assela	Wegayehu Pharmacy	Amanueal Damtew	kebele-	0911841512/0223311296	1	1	0	0

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
				Buseta					
91	Assela	Mifotu Pharmacy	Dr.Kedir Monjar	kebele-09	0911404970/0911841898	1	1	0	0
92	Assela	Shanan Pharmacy	Kerenso Gemedi	kebele-06	0911 84 08 97	1	1	0	1 (diploma nurse)
93	Assela	Kidanemehiret Pharmacy	Anteneh Mesfin	kebele-10	0911960887/0223314156	1	3	0	0
94	Assela	Nazrawi Pharmacy	Hanna Wondimagenehu	kebele-10	0911806401/0223312972	1	1	0	0
95	Assela	Oromiya Pharmacy	S/r Birze Kedir	kebele-07	0910 40 08 09	1	1	0	0
96	Assela	Red cross Pharmacy	Gemechu Nemomsa	kebele-04	0912080691/0223311757	1	0	0	1 (health assistant)
97	Assela	Durate Drug Store	Dedefw Beto	kebele-buseta	0911363942/0223316156	0	2	0	0
98	Assela	Noah Drug Store	Tirusew Bitew	kebele-07	0911751733/0223312760	0	1	0	1 (diploma nurse)
99	Assela	Assela Drug Store	Hailu Assefa	kebele-07	0911909090/0223310072	0	2	0	0
100	Assela	Amare Drug Store	Kassa Kiltu	kebele-06	0910166221/0223312380	0	3	0	1 (diploma nurse)
101	Assela	Abdi Waqi Drug Store	Bayessa Deriba	kebele-06	0911 84 13 14	0	1	0	0
102	Assela	Qidus Yohannes Drug Store	Yegel Birhanu	kebele-04	0911840541/0223317523	0	2	0	0
103	Assela	Geleta Drug Store	Demisse Eshete	kebele-07	0911 84 05 15	0	2	0	0
104	Assela	Paulos Drug Store	Tigist Arega	kebele-04	0911 84 13 28	0	3	0	0
105	Assela	Medhinealem Drug Store	Bogale Girma	kebele-07	0911 70 99 10	0	2	0	0
106	Assela	Arsi Drug Store	Tamrat Haile	kebele-07	0911 75 07 40	0	1	0	0
107	Assela	Workitu Drug Store	Etenesh Alula	kebele-06	0912 25 90 73	0	1	0	0
108	Assela	Amanuel rural drug vendor	Amanuel Damte	kebele-04	0911841512/0223311133	0	1	0	0
109	Assela	Molla rural drug vendor	Tigist Arega	kebele-04	0911 84 13 28	0	1	0	0
110	Shashemene	Abdi Pharmacy	Tuffa Bedhasso	Kebele-Abostoo	0916 82 24 69				

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
111	Shashemene	Awol Drug Store	Awol Muzi-mohammed	Kebele-Abostoo	0911 05 49 95				
112	Shashemene	Abinet Pharmacy	Abraham Bekele	Kebele-Arada	046 110 58 40	1	1	0	0
113	Shashemene	Ayantu Drug Store	Arafa Samuel	Kebele-Abostoo	0911 36 35 14				
114	Shashemene	Amanuel Pharmacy	Shiferaw	Kebele-Arada	0911658701/0116103670				
115	Shashemene	Beladona Drug Store	Tesfaye Anbesse	Kebele-Abostoo	0912 15 92 08				
116	Shashemene	Feyinee Pharmacy	Ababayehu Becho	Kebele-Awashoo	0916 83 27 39				
117	Shashemene	Kena Pharmacy	Meride Legaba	Kebele-Arada	0911 67 99 33				
118	Shashemene	Daneal Drug Store	Daneal Haile	Kebele-Arada	0912 12 77 45				
119	Shashemene	Hawii Pharmacy	Asfaw Kebede	Kebele-Abostoo	046 110 20 28				
120	Shashemene	Awasho Drug Store	Lema Dassa	Kebele-Arada	0911012175/0461101116				
121	Shashemene	Sadu Drug Store	Meskerem Wondimu	Kebele-Arada	0911727103/0923365864				
122	Shashemene	Elshaday Drug Store	Tsedeke Wasiso	Kebele-Arada	0916 82 20 05				
123	Shashemene	Nazrawi Drug Store	Bwlete Bekele	Kebele-Arada	0916 82 67 22				
124	Shashemene	Narobee Drug Store	Asebe Miteke	Kebele-Arada	0912 01 03 21				
125	Shashemene	Salam Pharmacy	Mulatu Kagnew	Kebele-Arada	0916 82 20 66				
126	Shashemene	Dagim Drug Store	Haregewin Arefe	Kebele-Abostoo	0911 71 56 85				
127	Shashemene	Qaxxamura Dima	Gezahegn Samuel	Kebele-Abostoo	046 110 41 30				

s.no	Town	Name of drug vendor	Name of contact person	Kebele	Telephone	Number of professional workers			
						B. Pharm	Druggist	Technician	Other specify
128	Shashemene	Letti Pharmacy	Nesib Mohammed	Kebele-Arada	0916 82 18 57				
129	Shashemene	Tsion Drug Store	Ehite Getachew	Kebele-Arada	0916 82 71 42				
130	Shashemene	Shashe Drug Store	Ushu Guduru	Kebele-Arada	0911 03 46 63				
131	Shashemene	Naol Drug Store	Duraity Teshit	Kebele-Arada	0911 72 71 03				

SUMMARY OF LOWER CLINICS IN ADAMA, MOJO, DUKEM, DERRA, BISHOFTU AND SHASHEMENE TOWNS

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
1	Adama	St.Georgis	Seleshe Abebe	Kebele-12	0911 84 03 82	0	0	1	0	7	8:30AM-8:00PM	9	1	FP, general health, emergency, and TB suspect identification and referral
2	Adama	Arsi Soap and oil factory	Dorgi Raya	Kebele-05	022 111 13 22	0	0	2	0	7	24 hrs	9	3	FP, child health, STI, general health and emergency, ANC and TB suspect identification and referral
3	Adama	Seifu	Seifu Taffa	Kebele-06	0913 02 20 33	0	0	2	0	6	8:30AM-7:00PM	40	30	Child health, ANC, STI, general health and emergency and TB suspect identification and referral
4	Adama	Harer	Abdulkader	Kebele-08	022 111 00 77	0	0	2	0	7	8:30AM-6:00PM	30	10	STI , general health and emergency and TB suspect identification and referral
5	Adama	Adulala	Negash Tadesse		0911 53 67 08	0	0	1	0	6	8:00AM-8:00PM	6	3	FP, child health, STI, first aid, general health and emergency and TB suspect identification and referral

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
6	Adama	Yadennu	Beffa Megerssa	Kebele-02	0912 25 87 15	0	0	3	0	7	7:00AM-6:00PM	5	1	STI, general health, emergency and TB suspect identification and referral
7	Adama	Borennna	Berhanu Urga	Kebele-03	0912 12 08 87	0	0	3	0	7	8:00AM-6:00PM	25	10	FP, child health, general health and emergency, ANC and TB suspect identification and referral
8	Adama	Assela	Hailu W/giorgis	Kebele-13	0910 25 50 79	0	0	1	0	5	8:00AM-10:00PM	10	3	FP, general health and emergency, STI and TB suspect identification and referral
9	Adama	Obssina	Juhar Hussien	Kebele-11	0920935750/0910256892	0	0	1	0	7	mondy -Friday (4:00PPM-8:00PM) sun and sat 24 hrs	6	3	FP, child health, STI , general health and emergency, ANC and TB suspect identification and referral
10	Adama	Hawi	Jemal Mohammed	Kebele- 06	0912 22 48 83	0	0	1	0	5	8:00AM:10:PM	10	3	STI , general health and emergency and TB suspect identification and referral
11	Adama	Li'illina	Mamo Abebe	Kebele-10	0911768090/0221113614	0	0	2	0	7	8:30AM-6:00PM	35	20	FP, child health , general health and emergency and TB suspect identification and referral

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
12	Adama	Birhan	Dr.Bekele Abebe	Kebele-16	0911 39 22 72	1MD	1lab	1	0	5	8:30AM-5:00PM	21	0	ANC, STI, lab service, general health and emergency and TB suspect identification and referral
13	Adama	Amanueal	Mokonnon Tadesse	Kebele-12	0911 11 09 94	1	1	2	0	7	8:00AM-8:00PM	19	1	FP, child health, STI, general health and emergency
14	Derra	Fraol	Kassa Shoro		0911 90 82 76	0	0	1	0	7	8:30:12:30PM	30	10	FP, child health , ANC, STI, general health and emergency and TB suspect identification and referral
15	Derra	Wolkessa	Bezualet Asmare		0912 23 99 54	0	0	2	0	7	24 hrs	21	14	FP, child health, ANC, STI, general health and emergency
16	Derra	Del .fiker	S/r Asfash Mekonnon		0912311480/0223330080	0	1lab	4	1	7	24 hrs	80	40	FP, child health, ANC, lab service, general health and emergency and TB suspect identification and referral
17	Mojo	Kidus Gebreal No.1	S/r Ayehu Birele	Kebele-01	0922286352/0221161329	1	1lab	2	0	7	24 hrs	35	35	FP, child health, ANC, lab service, general health and emergency and TB suspect identification and referral

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
18	Dukem	East Africa pvt.ltd company	S/r Aster Baynesagn		0911435769/0114526460	0	0	3	1	7	24 hrs	30	0	VCT ,FP, ANC, STI, general health and emergency and TB suspect identification and referral
19	Dukem	Adama	Mesfin degefu		0911 57 46 49	0	0	2	0	7	24 hrs	6	4	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
20	Bishoftu	Blue Nile	Yimer Ali	Kebele-02	0911975288/0114339000	0	0	1	0	7	24 hrs	66	0	FP, STI, general health and emergency and TB suspect identification and referral
21	Bishoftu	Kalkidan	Tadesse Hailemichael	Kebele-09	0911 37 10 42	0	0	2	0	5	8:00AM:5:00PM	50	10	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
22	Bishoftu	Flamingo	Getahun Kassa	Kebele-01	0911 33 14 52	2	0	2	0	7	7:00AM-6:00PM	5	0	FP, ANC, general health and emergency and TB suspect identification and referral
23	Bishoftu	Police	Tiruwork Tefera	Kebele-04	0911 89 45 49	0	0	3	0	7	8:30AM-5:30PM			FP, child health, ANC, STI, general health and emergency and

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
														TB suspect identification and referral
24	Shashemene	Betel	Kebede Roba	Kebele-Awasho	0911 74 95 00	0	0	2	0	7	1:00PM-mid night	22	3	Child health, STI, general health and emergency
25	Shashemene	Bachorea	Gosaye Tufa	Kebele-Awasho	0911 74 73 94	0	0	2	0	7	9:00AM-9:00PM	36	84	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
26	Shashemene	Hiwot	Fetene Kebeta	Kebele-Awasho	0913 15 17 83	0	0	1	0	7	8:30AM-12:30PM	19	1	FP, child health, general health and emergency and TB suspect identification and referral
27	Shashemene	Beza	Taye G/wold	Kebele-Awasho	0913259300/0461106975	0	0	2	0	7	8:00AM-9:00PM	1	0	STI, general health and emergency
28	Shashemene	Abdi Rabi	Deriba Denboba	Kebele-Awasho	0913 67 16 84	0	0	1	0	6	6:00AM-6:00Pm	23	2	FP, child health, general health and emergency and TB suspect identification and referral
29	Shashemene	Aba Jifar	Sr.Tadele Kebede	Kebele-Awasho	0911711544/0916114325	0	0	2	0	7	8:30AM-12:30PM	20	6	FP, child health, STI, general health and emergency and TB suspect identification and referral

s.no	town	Name of lower clinics	Name of contact person	kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.Sc nurse	Diploma nurse	HA			Adult	Child	
30	Shashemene	Elshaday	Lemma Bogale	Kebele-Awasho	0916 82 19 54	0	0	2	0	7	8:00AM-8:00PM	17	6	VCT, child health, ANC, STI, general health and emergency and TB suspect identification and referral
31	Shashemene	Bereket	Derebe Bedane	Kebele-Awasho	0911 90 51 78	0	0	1	1	7	8:00AM-8:00PM	30	21	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
32	Shashemene	Darfeta	Bona	Kebele-Awasho	0916 83 62 69	0	0	2	0	7	8:00AM-9:00PM	55	17	Child health, ANC, STI, general health and emergency and TB suspect identification and referral
33	Shashemene	Amanuel	Amanuel	Kebele-Awasho	0913 25 95 54									FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral

SUMMARY OF DRUG VENDORS IN DEBREMARKOS, BURIE, B/DAR, GONDER TOWNS

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
1	Debre Markos	AddisHiwot drug vendor	Getnet Debas	4	912054412	1	1	0	7	8:30AM-5:PM
2	Debre Markos	Kidus Markos Pharmacy	Wubet Mehari	4	911234725	1	2	0	5	8:00AM-8:00pm
3	Debre Markos	Eden Drug Store	Ayalneh Mideksa	4	918700064	1	0	0	7	24 hrs
4	Debre Markos	Kidusmichael Drug Store	Ayele Mulat	5	912829343	1	0	0	7	24 hrs
5	Debre Markos	Rohobot Drug Store	Genet Tena	4	911960809	1	0	0	7	8:30AM-5:30pm
6	Debre Markos	Kidusgebrriel Drug Store	Basazineu Adane	5	912038409	1	0	0	6	8:00AM-8:00pm
7	Debre Markos	Ketema Drug Store	W/o Tena Eshetu	5	587717032	1	0	0	6	8:00AM-8:00pm
8	Debre Markos	Red Cross Drug Store	Sisay Tesema	5	587712829	1	0	0	7	8:00AM-8:00pm
9	Debre Markos	Lalibela Drug Store	Yeshombel abiyu	6	913266315	1	0	0	6	8:00AM-5:30pm
10	Debre Markos	Menkorer Drug Store	Mamaru Anteneh	2	911808358	1	0	0	6	8:00AM-8:00pm
11	Debre Markos	Betel Drug Store	AbebechAbate	7	911955596	1	0	0	5	8:00AM-5:00pm
12	Debre Markos	Tsion Drug Store	Nebiyu Kassie	3	911944756	1	0	0	7	8:00AM-8:00pm
13	Debre Markos	Nohe Drug Store	Habtamu Getnet	3	912203006	1	0	0	7	8:30AM- 5:00pm
14	Burie	Burie Yohannes D. Store	Muhammed Ademe	2	921885402	2	0	0	6	8:00AM-8:30pm
15	Burie	Tigesd Drug vendor	Dagne Belete	2	912924941	1	0	0	7	24 hrs
16	Burie	Burie Drug Store	Adugna Taye	1	913328240	3	0	0	7	24 hrs
17	Burie	Mulu Drug Store	Mulugeta Alemu	1	913050527	1	0	0	6	8:30AM-8:30pm

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
18	Bahirdar	Addis Hiwot drug vendor	Ato Getnet Debaso		912054412	1	1	0	7	24 hrs
19	Bahirdar	Kidus Markos Pharmacy	Ato Wubet Mahari		911234725	1	2	0	7	24 hrs
20	Bahirdar	Eden Drug Store	Ato Ayalneh Mideksa		918700064	1	0	0	6	8:00AM-8:30pm
21	Bahirdar	Kidus Michael Drug Store	Ayele Mulat		912829342	1	0	0	6	8:00AM-8:30pm
22	Bahirdar	Rohobot Drug Store	Genet Tena		911960809	1	0	0	7	8:00AM-8:00pm
23	Bahirdar	KidusGebriel Drug Store	Basazine Adane		912038409	2	0	0	6	8:00AM-8:00pm
24	Bahirdar	Ketema Drug Store	W/ro Tena Eshetu		05877i7032	2	0	0	6	8:00AM-8:00pm
25	Bahirdar	Red Cross Drug Store	Sisay Tesema		587712829	3	0	0	6	8:00AM-8:00pm
26	Bahirdar	Lalibela Drug Store	Yeshombel Abiyu		913266315	2	0	0	6	8:00AM-8:00pm
27	Bahirdar	Menkorer Drug Store	Mamaru Anteneh		911808358	2	0	0	6	8:00AM-8:00pm
28	Bahirdar	Bethel Drug Store	Abebech Abate		911955596	2	0	0	6	8:00AM-8:00pm
29	Bahirdar	Tsion Drug Store	Nebiyu Kassie		911944756	1		0	6	8:30AM-8:30pm
30	Bahirdar	Nohe Drug vendor	Habtamu Getnet		912203006	1	0	0	5	8:00AM-8:00pm
31	Bahirdar	Ethiopia Drug Store	Daniel Tibebe		918767508	2	0	0	7	8:00AM-8:00pm
32	Bahirdar	Nile Pharmacy	Hawa Yesuf		582203901	-	2	0	7	24 hrs
33	Bahirdar	Kidus Michael drug vendor	Mekdeswork Shiferaw		918705629	2	0	0	6	8:00AM-8:00pm
34	Bahirdar	Africa Drug Store	Fiseha Geremew		582209899	1	0	0	6	8:00AM-8:00pm

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
35	Bahirdar	Kal drug vendor	Yitayih Shegnew		918726806	1	0	0	6	8:00AM-8:00pm
36	Bahirdar	Dagmawit Pharmacy	Asfaw Beshah		918702613	1	1	0	7	24 hrs
37	Bahirdar	Raguel Drug Store	Endale Alemayehu		918712406	3	0	0	6	8:00AM-8:00pm
38	Bahirdar	Alemsaga drug vendor	Atikilt Yigzaw		-----	2	0	0	6	8:00AM-8:00pm
39	Bahirdar	Admas drug vendor	Mitin Nega		918783606	2	0	0	6	8:30AM-8:30pm
40	Bahirdar	International drug vendor	Abebe Mengistie		582202460	1	1	0	6	8:00AM-8:00pm
41	Bahirdar	Dubai drug vendor	Fantahun Tifsit	2	582204520	1	0	0	6	8:00AM-8:00pm
42	Bahirdar	Bitaniya drug vendor	Fiker Alemu		918782165	2	0	0	6	8:00AM-8:00pm
43	Bahirdar	Family drug vendor	Alemneh Asfaw	12	913448079	1	1	0	6	8:00AM-8:00pm
44	Bahirdar	Selam Drug Store	Hussen Muhamod		918762063	2	0	0	6	8:00AM-8:00pm
45	Bahirdar	BezaHiwot Pharmacy	Zelalem Zebenay	13	918767100	3	1	HA one	7	8:00AM-8:00pm
46	Bahirdar	Kidus Gebriel Drug Store	Gedif Abebe	13	918727740	3	0	0	6	8:00AM-8:00pm
47	Bahirdar	Bahirdar drug vendor	Abebe Berihun	13	918760123	1	0	0	6	8:00AM-8:00pm
48	Bahirdar	Grass drug vendor	Woderyeleh Abera	13	918767912	2	0	0	6	8:00AM-8:00pm
49	Bahirdar	Fiker drug vendor	Tisabay		918027269	-----	----	0	6	8:00AM-8:00pm
50	Bahirdar	Amanuael Drug Store	Tadesse Deres	4	918806437	1	1	0	6	8:00AM-8:00pm
51	Bahirdar	Hanan Drug Store	Zemzelina		918003020	1	0	0	6	8:00AM-8:00pm
52	Bahirdar	Tsion Drug Store	Marie Shiferaw		918723437	2	0	0	6	8:00AM-8:00pm
53	Bahirdar	Zega Drug Store	Yami Degefa		918006170	3	0	0	6	8:00AM-8:00pm

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
54	Bahirdar	Dawit Drug Store	Siew Tirusew		918022802	2	0	0	6	8:00AM-8:00pm
55	Bahirdar	BlueNile Pharmacy	Emebet Shitaye		918800894	2	1	0	7	24 hrs
56	Bahirdar	Adomay drug vendor	Tigest Meseret		918011107	2	0	0	6	8:00AM-8:00pm
57	Bahirdar	Beta Pharmacy	Meskerem Andargie		918783808	0	1	0	7	24 hrs
58	Bahirdar	Gion Pharmacy	Mesfin Mengistu		918761397	1	1	0	7	8:00AM-8:30pm
59	Bahirdar	Mihretab Drug Store	Fantaye Golla		918784092	3	0	0	6	8:00AM-8:00pm
60	Bahirdar	Blen Drug Store	Wegene Belay		918766373	2	0	0	6	8:00AM-8:00pm
61	Bahirdar	Lideta Drug Store	Tamiru		918005766	1	0	0	6	8:00AM-8:00pm
62	Bahirdar	Kidest Lideta Drug Store	H/Mariam Berhanu		918781329	2	0	0	7	7:00AM-8:00pm
63	Bahirdar	Yordanos Drug Store	Sr. Addisalem Kssie		918761968	1	0	0	6	8:30AM-5:30pm
64	Bahirdar	Sisay drug vendor	Sisay Addisie		918784807	3	0	0	6	8:30AM-8:00pm
65	Bahirdar	Dima drug vendor	Abekyelesh Tefera	Keb 06	918769459	2	0	0	7	8:30-5:30
66	Bahirdar	Milinieum drug vendor	Abdela Fenta		918765664	1	2	0	6	8:00AM-8:00pm
67	Bahirdar	Tana drug vendor	Admassie Atalaye		918765028	2	0	0	7	24 hrs
68	Bahirdar	Red Cross drug vendor	Chanie Admasie	Keb 02	913795615	1	1	0	6	24hrs
69	Bahirdar	Arsema drug vendor	Selamawit Bitew	Keb 04	918705048	2	0	0	6	8:30AM-5:#)PM
70	Gonder	Ibex Pharmacy	Alamrew Alem	18	913619442	3	2	0	7	24 hrs
71	Gonder	Betieal Pharmacy	Ketema W/Mariam	18	581113478	1	1	0	7	24 hrs

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
72	Gonder	Kidest Arsema Drug Store	Desta Assefa	18	918804794	1	1	0	6	8:00AM-8:30pm
73	Gonder	Selama Drug Store	Getinet Mekuanint	18	920256073	2	0	0	6	8:30AM-5:30pm
74	Gonder	Ethiopia Drug Store	Bayu Mandefro	17	918776526	1	1	0	6	8:00AM-8:00pm
75	Gonder	Dina Drug Store	Mulugeta Birku	17		2	0	0	7	8:00AM-8:00pm
76	Gonder	Meaza Pharmacy	Adugna Ayanaw	17	918777942	0	1	0	7	24 hrs
77	Gonder	Rewina Drug Store	Mesele Abreha	10	918774148	1	2	0	6	8:00AM-8:30pm
78	Gonder	Family Pharmacy	Wondossen Mebratu	13	920249158	1	1	0	7	24 hrs
79	Gonder	Tena Pharmacy	Fikiraddis Juhar	13	918774938	1	1	0	6	8:30AM-5:30pm
80	Gonder	Mikigewe Pharmacy	Roza Misganaw	13	918773859	1	1	0	7	24 hrs
81	Gonder	Dagim Drug Store	Sr. Degie Resom	13	918770637	1	0	0	6	8:00AM-5:30pm
82	Gonder	Ketema Drug Store	Mahimud Muhamednur	4	918045009	2	0	0	6	8:00AM-5:30pm
83	Gonder	Bethelihem drug vendor	Aynalem Abebe (Azezo)	Azezo	058140024/0918047628	1	0	0	6	8:00AM-5:30pm
84	Gonder	Kidus Gebriel Drug Store	Getu Negash (Azezo)	Azezo	918778391	1	0	0	7	8:30AM-8:30pm
85	Gonder	Abiy drug vendor	Abiy		918233480	1	0	0	7	8:30AM-8:30pm
86	Gonder	Amanuel drug vendor	Muluken Mekie		918774284	2	0	0	6	8:00AM-8:00pm
87	Gonder	Guna Pharmacy	Melkie Alemu		918773976	-	1	0	7	24 hrs

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
88	Gonder	Kuware Pharmacy	Belay Kebede		918771296	1	1	0	7	24 hrs
89	Gonder	Selamna Tena drug vendor	Alemu Getaneh	12	918777863	1	0	0	6	8:30AM-5:30pm
90	Gonder	Adam drug vendor	Ayalew Lemenih	16	918762490	3	0	0	6	8:30AM-5:30pm
91	Gonder	Kidus Chirkos Drug Store	Simegn Yinagn	11	918034934	2	0	0	6	8:00AM-10:00pm
92	Gonder	Kidanemehiret Drug Store	Merkeb Addis	10	918777930	1	0	0	6	8:00AM-5:30pm
93	Gonder	Abyssinia Drug Store	Muluken Wubet	11	912479875	1	0	0	6	8:00AM-8:30pm
94	Gonder	Hayat Pharmacy	Negedie Tarekegn	11	918735438	0	1	0	7	24 hrs
95	Gonder	Piyaza Drug Store	Masresha Wana	12	918785245	3	0	0	6	8:30AM-8:30pm
96	Gonder	Guzara Pharmacy	Yerumnesh Tesema	16	918704617	2	2	0	7	9:00AM-7:30pm
97	Gonder	Gelila Drug Store	Kefale Tarekegn	16	918704534	1	1	0	6	8:30AM-8:30pm
98	Gonder	Berhan Drug Store	Tamiru Endale	16	918188977	2	0	0	6	8:30AM-8:30pm
99	Gonder	Fasil Drug Store	Adane Nega	3	918775323	2	0	0	6	8:30AM-8:30pm
100	Gonder	Arada Drug Store	Anteneh Belete	Arada	918729823	2	0	0	6	8:30AM-8:00pm
101	Gonder	Anwar Drug Store	Nurhasen Muhamod	7	918777797	2	0	0	6	8:30AM-5:30pm
102	Gonder	Jantekel Drug Store	Almaze Nigussie	4	918772810	1	0	0	6	8:30AM-5:30pm
103	Gonder	Mekdela Drug Store	Muhammod	4	581114828	1	0	0	6	8:30AM-8:00pm
104	Gonder	Menahariya Drug Store	Nahusenay Masresha	Cherkos	918712444	3	0	0	6	8:30AM-8:30pm

s.no	Town	Name of drug establishment	Name of contact person	kebele	Telephone	Type of service			Working days/ week	Working hours per day
						Druggist	Pharmacist	Others Specify		
105	Gonder	Hiwot Drug vendor	G/Egzabhir Geday	Cherkos	918254528	2	0	0	6	8:30AM-8:30pm
106	Gonder	Semar Drug Store	Adem Ahemed	9	581113358	1	0	0	7	8:30AM-8:30pm
106	Gonder	Chechela Drug Store	Gizachew Mamuye	16	581118609	1	0	0	6	8:30AM-8:30pm
106	Gonder	Ergib-ber drug vendor	Assefa Bogale	Arada	-----	1	0	0	6	8:30AM-5:30pm
106	Gonder	Gonder Pharmacy	Lijalem Mengistu	11	918772215	1	1	0	7	24 hrs

SUMMARY OF LOWER CLINICS IN DEBREMARKOS, BURIE, BAHIRDAR AND GONDER TOWNS

s.no	Town	Name of lower	Name of contact person	kebele	Number of health worker						Working days per week	Working hours per day	Total number of patients per week		Service provided
					Ph. Tech	Lab. Tech	HO	B.Sc.	Diploma	HA			Adult	Child	
1	Debremarkos	Police Collage Lower Clinic		4		1	0	0	2	1	7	8:30AM-5:30PM	210	2	Child health, STI , general health and emergency, lab. services, TB suspect identification and referral
2	Debremarkos	East Gojam Prison Lower Clinic		6			0	0	2	0	5	8:30AM-5:30PM	36	0	FP, child health, STI, general health and emergency, ANC and TB suspect identification and referral
3	Debremarkos	D.M. University Lower clinic		4	2	2	1	0	4	0	7	24 hrs	600	0	STI, general health and emergency lab service, TB suspect identification and referral, diagnosis and treatment
4	Debremarkos	Medhaniyalem Lower Clinic		5	0	0	0	0	0	1	7	8:00AM-6:00PM	4	1	STI, general health and emergency and TB suspect identification and referral
5	Debremarkos	Abebe Lower Clinic		8	0	0	0	0	1	0	7	24 hrs	12	3	STI , general health and emergency and TB suspect identification and referral
6	Debremarkos	Police Administration L Clinic		4	0	0	0	0		1	5	8:30AM-5:30PM	126	0	Child health, STI , general health and emergency and TB suspect identification and referral
7	Burie	Burie Kul-water Factory L.C.		—	0	0	0	1	0	0	6	8:30AM-4:30PM	9	4	STI, general health and emergency and VCT, TB suspect identification and referral
8	Burie	Abeba Lower Clinic				—	0	1	2	0	7	24 hrs	25	0	STI, child health, suspect ID, referral, FP, emergency care, general
9	Burie	Burie Lower Clinic				—	0	0	1	1	7	24 hrs	5	0	STI, general health and emergency and TB suspect identification and referral

s.no	Town	Name of lower	Name of contact person	kebele	Number of health worker						Working days per week	Working hours per day	Total number of patients per week		Service provided
					Ph. Tech	Lab. Tech	HO	B.Sc.	Diploma	HA			Adult	Child	
10	Bahirdar	Sipara Lower Clinic			0	0	0	1	3	0	7	24 hrs	35	7	STI, general health and emergency and TB suspect identification and referral
11	Bahirdar	Bahirdar Lower Clinic			0	0	0	0	2	1	7	24 hrs	84	3	Child health, STI, general health and emergency and TB suspect identification and referral
12	Bahirdar	Efraim Medium Clinic			1	1	0	1	0	0	7	8:30AM-5:30PM	25	10	Lab diag., FP, STI, ANC, emergency health care
13	Bahirdar	Peda Bahirdar Univ. Lower Clinic			1	2	0	1	10	0	7	24 hrs	350	0	VCT, lab diagnosis, STI, general health and emergency and TB suspect identification, treatment
14	Bahirdar	Bahirdar Textile Factory Lower Clinic			1	1	0	1	6	0	7	24 hrs	40	0	General health, emergency and TB suspect identification and referral
15	Bahirdar	Bahirdar University Poly Lower Clinic			1	1	0	0	6	0	7	24 hrs	245	1	FP, STI, general health and emergency and TB suspect identification, diagnosis, treatment
16	Bahirdar	Selam Lower Clinic Tis-Abay		Tiss Abay	0	0	0	0	0	1	7	24 hrs	4	1	General health and emergency and TB suspect identification and referral
17	Bahirdar	Ahsenafi Adem Lower Clinic	Ahsenafi Adem	Tiss Abay	0	0	0	0	1		7	24 hrs	42	10	ANC, suspect identification, referral
18	Bahirdar	Teklehaimanot Lower Clinic		Tiss Abay	0	0	0	1	0	0	7	8:30AM-5:30PM	15	1	General health, emergency and TB suspect identification and referral
19	Gonder	Bethlihem Lower Clinic	Bethlihem Worku		0	0	0	0	1	0	7	8:30AM-5:30PM	17		STI, child Health, emergency health, general health
													3		
20	Gonder	Meseret Lower Clinic			0	0	0	0	1	0	7	24 hrs	7	0	FP, child health, ANC, STI,

s.no	Town	Name of lower	Name of contact person	kebele	Number of health worker						Working days per week	Working hours per day	Total number of patients per week		Service provided
					Ph. Tech	Lab. Tech	HO	B.Sc.	Diploma	HA			Adult	Child	
															general health care, emergency care
21	Gonder	Lideta Lower Clinic			0	0	0	0	1	0	7	8:30am-Mid	4	1	General health and emergency and TB suspect identification and referral
22	Gonder	Africa Lower Clinic			0	0	0	0	2	0	7	8:30AM-5:30PM	14	0	STI, child health, emergency health, suspect identification, referral
23	Gonder	Gonder Prison Lower Clinic				0	0	0	3	0	7	8:30AM-5:30PM	420	0	Suspect identification, referral, VCT, general
24	Gonder	Pepsi Cola Factory Lower Clinic				0	0	1	0	0	6	8:30AM-5:30PM	35	20	General health care & emergency health
25	Gonder	Gonder Police Lower Clinic			0	0	0	0	1	0	5	8:30AM-5:30PM	70	0	VCT, child health STI , general health and emergency and TB suspect identification,treatment
26	Gonder	Kidest Mariam Lower Clinic			0	0	0	0	0	1	7	24 hrs	4	3	Child health, ANC, STI, general health, emergency care, suspect identification, referral
27	Gonder	Catholic Church Lower Clinic			0	1	0	0	2	0	5	8:30AM-5:30PM	50	10	Child health, ANC, STI, general health, emergency care, suspect identification, referral
28	Gonder	Gonder Road Construction Lower Clinic			0	0	0	0	1	0	5	8:30AM-5:30PM	40	1	General health care, emergency health suspect identify and referral
29	Gonder	Yohanes Lower Clinic			0	0	0	0	1	0	7	8:30AM-5:30PM	13	0	FP, child health, STI, general health care, emergency care
30	Gonder	Kegnbet Lower Clinic		keb-11	0	0	1		1	0	7	8:30AM-	14	0	FP, child health, STI, general

s.no	Town	Name of lower	Name of contact person	kebele	Number of health worker						Working days per week	Working hours per day	Total number of patients per week		Service provided
					Ph. Tech	Lab. Tech	HO	B.Sc.	Diploma	HA			Adult	Child	
												5:30PM			health care, emergency care, suspect identification, referral, ANC
31	Gonder	Kidus Yared Lower Clinic			0	0	0	0	0	1	7	8:30AM-5:30PM	0	1	Child health, STI, suspect identification, referral
32	Gonder	Berhan Lower Clinic			0	0	0	0	1	1	7	24 hrs	7		FP, child care, STI, TB suspect identification, referral, general health, emergency

SUMMARY OF DRUG ESTABLISHMENTS IN EAST AMHARA

s.no	Town	Name Drug Establishment	Name of contact person	kebele	Telephone
1	Dessie	Kana Zegelia Pharmacy	Tibebu W/michael	6	
2	Dessie	Selam Pharmacy	Mohamed Abegaz	5	331111333
3	Dessie	Africa Pharmacy	Brihanu Girmay	6	331117225
4	Dessie	Hiwot pharmacy	Tesafaye Abebaw	7	331113250
5	Dessie	Bati Pharmacy	Birhanu Reda	7	331115522
6	Dessie	Ethio Pharmacy	Mebrahatu Ashew	7	331117470
7	Dessie	Bethelihem Pharmacy	Nur Akemele	6	331117747
8	Dessie	Beteseb Drug store	Fesseha Yimer	1	331122444
9	Dessie	Abinet Drug Store	Fesseha Yimer	4	331111046
10	Dessie	Tossa Drug Store	Almaz Mekonene	6	331115138
11	Dessie	Ethio Drug Store	Mamao Lema	6	331115138
12	Dessie	Wello Drug Store	Demella Abate	7	914063365
13	Dessie	Dessie Drug Store	Minyichilu Getahune	7	914710947
14	Dessie	Awash Drug Store	Woyineshet Demessa	7	911098180
15	Dessie	Family Guidnace Association Drug Store	Mene Chernet	5	331116592
16	Dessie	Meba Drug Store	Banchi	10	
17	Dessie	Mekidela Drug Store	Sissay Tilahun	6	331118814
18	Dessie	Fewus Drug Store	Birra Gellgay	7	331117103
19	Dessie	Afiya Drug Store	Jemila Umer	7	914737850
20	Dessie	Mahlet Drug Store	Tesfaye Molla	9	914710309
21	Dessie	Amnuel Drug Store	Alemu Sissay	10	914712345
22	Dessie	Buanbawhha Drug Store	Talemahu Adane	9	914600532
23	Dessie	Dessie Red Cross Drug Store	Tesfakiross Desta	7	331190921

24	Dessie	Kidus Gebrele drug vendor	Aschalew Mulugeta	4	033 111 10 21
25	Dessie	Gishen Mariam drug vendor	Gebeyehu Molla	10	033 111 76 34
26	Dessie	Tesfaye Drug Store	Tesfaye Fantaw	5	09 10 35 15 87
27	Dessie	Kalle Drug Store	Marelegne kassa	5	09 12 47 54 34
28	Dessie	Baemnet Drug Store	Hagazi Mehari	7	09 14 72 34 25
29	Dessie	Selula Drug Store	Yemer Yosuph		14 71 76 67
30	Dessie	Kalebe Drug Store	Fikadu Aragaw		913275888
31	Dessie	Beza Drug Store	Emebet Haile		335511611
32	Dessie	Kifle Drug Store	Kifle Meshesha		914065410
33	Debre Brehan	Alem Drug Vendor	S/r Alemash	6	116817018
34	Debre Brehan	Debre Brehan drug vendor		4	
35	Debre Brehan	Mare drug vendor	Damete Getachew	6	911028535
36	Debre Brehan	Red Cross Drug Store		2	116811565
37	Debre Brehan	Setotaw Drug Store	Sitotaw Eshetu	6	
38	Debre Brehan	Eskender Pharmacy	Eskender Hunegna		0911 22 49 96

SUMMARY OF LOWER CLINICS IN EAST AMHARA

S/NO	Town	Name of lower clinic	Name of contact person	Kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.sc	Diploma	HA			Adult	Child	
1	Debre Berhan	Bekele Robi Lower Clinic				0	0	0	1	7	8:30AM-5:30PM	7	8	Emergency health, TB suspect identification and referral
2	Debre Berhan	Prison Lower Clinic				0	0	2	0	7	8:30AM-5:30PM	15	15	VCT, FP/RH, STI, general health and emergency and TB suspect identification and referral
3	Debre Berhan	Police Lower Clinic				0	0	2	0	5	8:30AM-5:30PM	4	4	FP/RH, child health, ANC, STI, general health, emergency health
4	Debre Berhan	Felwuha Lower Clinic				0	0	2	0	7	8:00AM-8:00PM	4	3	FP/RH, child health, ANC, STI, general health, emergency health
5	Kombolcha	Hiwot Lower Clinic				0	0	2	0	5	8:00AM-5:00PM	25	3	General health, emergency health
6	Kombolcha	Bilar Lower Clinic				0	0	1	1	7	8:00AM-9pm	30	6	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
7	Kombolcha	Mesude Lower Clinic				0	0	2	0	7	8:00AM-8:00PM	35	30	FP/RH, child health, ANC, STI, general health, emergency health, TB suspect identification and referral

S/NO	Town	Name of lower clinic	Name of contact person	Kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.sc	Diploma	HA			Adult	Child	
8	Kombolcha	Kmbolcha Tannery Lower Clinic				0	0	2	0	5	24hrs	30	#VALUE!	FP/RH, STI, TB suspect identification and referral, general health, emergency health
9	Kombolcha	Agric Lower Clinic				0	0	1	0	7	24hrs	50	0	General health and emergency and TB suspect identification and referral
10	Kombolcha	Ruh Lower Clinic				0	0	2	0	7	8:00AM-6:00PM	65	21	FP, child health, ANC, STI, TB suspect identification and referral, delivery
11	Kombolcha	Bethel Lower Clinic				0	1	1	0	7	8:00AM-8:00PM	38	10	FP, child health, ANC, STI, general health and emergency and TB suspect identification and referral
12	Kobolcha	BGI Lower Clinic	Yenberberu Messae	kebele-04	912939656	0	0	4	0	7	24hrs	105	7	VCT, FP/RH, ANC, STI, TB suspect identification and referral, general health, emergency health
13	kombolcha	Selam Lower Clinic	Ayenew Temesgen	kebele-04	920052253	0	0	2	0	7	8:30AM-5:30PM	20	5	FP/RH, ANC, STI, general health, emergency health
14	kombolcha	Afiya Lower Clinic				0	0	2	0	7	24hrs	15	4	FP/RH, child health, ANC, STI, TB suspect

S/NO	Town	Name of lower clinic	Name of contact person	Kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.sc	Diploma	HA			Adult	Child	
														identification and referral, general health, emergency health
15	kombolcha	Berhane Lower Clinic				0	0	0	2	6	8:30AM-12:30PM	12	3	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
16	kombolcha	Elfora Lower Clinic				0	0	1	1	7	8:00AM-4:00PM	8	-	FP/RH, ANC, STI, TB suspect identification and referral
17	Dessie	St.Mariam Lower Clinic				0	0	1	1	7	8:30AM-5:30PM	15	10	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
18	Dessie	Akram Lower Clinic				0	0	1	1	7	8:00AM-10:00PM	49	28	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
19	Dessie	Binkedir Lower Clinic			331112217	0	0	2	0	7	7AM-7:30PM	55	20	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health

S/NO	Town	Name of lower clinic	Name of contact person	Kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.sc	Diploma	HA			Adult	Child	
20	Dessie	Abera Lower Clinic				1	0	1	0	7	3:00AM-8:00PM	41	3	VCT, FP/RH, child health, ANC, STI, general health, emergency health
21	Dessie	Mahlet Lower Clinic	Yimam Arajaw		914710434	0	1	1	0	7	8:00AM-8:00PM	50	10	VCT, FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
22	Dessie	Bethlehem Lower Clinic				0	0	1	1	7	8:00AM-7:00PM	25	10	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
23	Dessie	Aberaselasie Lower Clinic				0	0	1	0	6	8:00AM-6:00PM	8	2	Child health, ANC, STI, TB suspect identification and referral, general health, emergency health
24	Dessie	Alem Lower Clinic				0	0	1	0	5	8:00AM-8:00PM	42	5	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health

S/NO	Town	Name of lower clinic	Name of contact person	Kebele	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
						HO	B.sc	Diploma	HA			Adult	Child	
25	Dessie	Feseha Lower Clinic				0	0	0	1	7	8:00AM-7:00PM	63	7	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
26	Dessie	Kuru Lower Clinic				1	0	1	0	7	24 hrs	50	20	FP/RH/child health, ANC, STI, TB suspect identification and referral, general health, emergency health
27	Haik	Kana Gelila Lower Clinic				0	0	0	2	7	8:00AM-7:30PM	6	5	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health
28	Haik	Ruh Lower Clinic				2	0	1	0	7	8:00AM-6:00PM	40	10	FP/RH, child health, ANC, STI, TB suspect identification and referral, general health, emergency health

SUMMARY LOWER CLINICS IN AMBO, BURAYO, JIMMA AND AGARO TOWNS

s.no	Town	Name of lower	Name of contact person	kebele	P.O.Box	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
							HO	B.Sc	Diploma	HA			Adult	Child	
1	Ambo	Abayenhe Lower Clinic	Degaga Chuche	keb 01		011 236 62 56	0	0	0	2	7	8:00AM-6:30PM	40	15	FP, child health, STI, general health and emergency and TB suspect identification and referral
2	Ambo	Amaro Lower Clinic	Wedago Tesema	keb 01		0916 82 98 37	0	0	2	0	7	24 hrs	9	3	FP, child health, STI, general health and emergency, ANC and TB suspect identification and referral
3	Ambo	Hawi Lower Clinic	Wondimu Wolalcho	keb 02		0913 04 46 25	0	0	1	0	7	8:00AM-8:00PM	26	12	FP, child health, STI, general health and emergency and TB suspect identification and referral
4	Ambo	Arada Lower Clinic	Oljira Kebelesa	keb 03		011 236 30 45	0	0	2	1	7	8:00AM-6:00PM	25	9	FP, child health, STI, general health and emergency, ANC and TB suspect identification

s.no	Town	Name of lower	Name of contact person	kebele	P.O.Box	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
							HO	B.Sc	Diploma	HA			Adult	Child	
															and referral
5	Buray o	Beza Lower Clinic	Getachew Haile	Burayo Kata Kebele		011 284 00 48	0	0	2	0	7	24 hrs	8	2	FP, child health, STI, general health and emergency and TB suspect identification and referral
6	Buray o	Tilita Lower Clinic	Atinafu Worku	Nono Kebele		0912 18 31 61	0	0	1	1	5	24 hrs	23	2	FP, child health, STI, general health and emergency and TB suspect identification and referral
7	Buray o	Selam Lower Clinic	Birhanu Kebede	Geferessa Kebele		0911 03 44 64	0	0	2	0	7	8:30AM-7:30PM	8	6	FP, child health, STI, general health and emergency, ANC and TB suspect identification and referral
8	Buray o	Tsdedeniya Lower Clinic	Sir Musaliyat Suleman	Geferessa Burayo Kebele		0913 078494	0	1	0	0	7	7:30AM-8:00PM	5	2	FP, Child health , Mior surgery General Health and emergency

s.no	Town	Name of lower	Name of contact person	kebele	P.O.Box	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
							HO	B.Sc	Diploma	HA			Adult	Child	
															,ANC and TB suspect identification and referral
9	Buray o	Dibora Lower Clinic	Taye Alemu	Geferessa Burayo Kebele		0911 33 40 41	0	0	1	0	7	Monday - Friday (4:00PPM-8:00PM) Sun and Sat 24 hrs	6	3	FP,Child health , STI , General Health and emergency ,ANC and TB suspect identification and referral
10	Buray o	Gebrel Lower Clinic	Asefaw Kidanwolede	Nono Kebele		0913 41 06 56	0	0	1	0	7	24 hrs	10	4	FP,Child health , General Health and emergency and TB suspect identification and referral
11	Buray o	Geferesa Lower Clinic	Hailu Bilata	Gujo Kebele		0911 75 50 58	0	0	1	0	7	8:00AM-8:00PM	20	15	FP,Child health , STI , General Health and emergency and TB suspect identification and referral
13	Buray o	Hawi Lower Clinic	closed												

s.no	Town	Name of lower	Name of contact person	kebele	P.O.Box	Telephone	Number of health workers				Working days per week	Working hours per day	Total number of patients per week		Service provided
							HO	B.Sc	Diploma	HA			Adult	Child	
14	Jimma	Petros Lower Clinic	Abereham Petros	Ginjo Gudru Kebele		0913 760483	0	0	1	0	6	8:30AM-9:00PM	27	11	Child health , STI , General Health and emergency and TB suspect identification and refrral
15	Agaro	Selam Lower Clinic	Wondeson W/Tsadik	Kebele - 04		0917 80 15 84	0	0	2	0	7	8:30AM-8:30PM	13	4	Child health, FP, STI, general health and emergency and TB suspect identification and referral
16	Agaro	Wondimamm choch Lower Clinic	Muhassen Jemal	Kebele - 04	303	0911 352694	0	0	2	0	6	8:00AM-9:00PM	24	12	Child health, FP, STI, general health and emergency and TB suspect identification and referral
17	Agaro	Shalom Lower Clinic	Shemisu A/Gero	Kebele 02	43	047 221 10 89	0	0	1	1	7	8:00AM-8:00PM	35	10	Child health, general health and emergency and TB suspect identification and referral

SUMMARY OF DRUG VENDORS IN AMBO, BURAYO, JIMMA AND AGARO TOWNS

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggi st	technici an	other specialty		
1	Ambo	Universal Drug Store	Marta Sufa	keb 02	—	0910 81 91 97	1	0	1	0	7	8:00AM-8:00pm
2	Ambo	Eden Drug Store	Shibesw Belda	keb01	—	0911 89 44 51	0	2	0	0	6	8:30AM-7:30pm
3	Ambo	Biya Drug Store	Solomon Tisasu	keb 01	—	0922 40 43 77	0	2	0	0	7	24 hrs
4	Ambo	Rohobot Drug Store	Ejeta Abdiso	keb 01	—	0911 99 44 58	0	2	0	0	6	8:00AM-7:00pm
5	Ambo	Abdi Drug Store	Fantahun Furata	keb 01	—	0917 85 04 08	0	1	0	0	7	8:00AM-5:30pm
6	Ambo	Ambo Red Cross pharmacy	Mulu Geleta	keb 01	—	011 236 60 70	1	2	0	0	6	8:00AM-5:30pm
7	Ambo	Yahwence Drug Store	Misrak Burayu	keb 01	—	0911 74 16 54	0	1	0	0	7	8:00AM-8:00pm
9	Ambo	Kegna drug vendor	Grima Belay	keb 01	—	0911 35 00 80	0	2		0	7	8:00AM-8:00pm
10	Ambo	Micro drug vendor	Dribachew Gutema	keb 01	—	09 11 98 38 11	0	1	0	0	7	8:00AM-9:00pm
11	Ambo	Ambo Rural drug vendor	Kumela Natan	keb 03	—	011 236 22 64	0	0	0	1 (health assistant)	6	8:00AM-6:30pm
12	Ambo	Alatu Pharmacy	Ademasu Gutu	keb 01	—	09 13 41 28 57	1	0	0	0	6	8:00AM-6:30pm
13	Ambo	Robson Drug Store	Gonfa Garedew	keb 03	—	09 11 35 01 49	0	1	0	0	7	8:30AM-8:00pm
14	Ambo	Urji drug vendor	Abdu Adem	keb 01	—	09 10 53 59 55	0	1	0	0	7	8:00AM-8:00pm
15	Ambo	Wan offi	Misganaw Etifa	keb 01	—	09 12 88 38 39	0	1	0	0	6	8:30AM-8:00pm
16	Buray o	Beti Drug Store	Mekidelawit Kassa	Gefersa Burayo Kebele	—	0911 71 41 88	0	1	0	0	7	9:00AM-7:00pm
17	Buray	Sifen Pharmacy	Ayenalem Alemu	Gefersa Burayo	—	0911 68 32 63	1	0	0	0	6	9:00AM-

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggi st	technici an	other specialty		
	o			Kebele								9:00pm
18	Buray o	Kena Rebuma Drug Store	Wondimu Akalu	Meleka Geferssa kebele	—	0913 87 62 65	0	1	0	0	6	8:00AM-7:00pm
19	Buray o	Gemechu Drug Store	Gemechu Fyasa	Geferssa kebele	—	0913 74 39 40	0	1	0	0	5	8:00AM-8:00pm
20	Buray o	Lucy Drug Store	H/Mariam W/meskel	Burayo Keta Kebele	—	0911 445551	0	2	0	0	7	7:00AM-8:30pm
21	Buray o	EFETU Rural drug vendor	Tsigereda Kidane	Geferssa Burayo Kebele	—	0911 03 37 72	0	1	0	0	6	8:00AM-8:00pm
22	Buray o	Kusay Rural drug vendor	Tesefaye Raji	Geferssa Kebele	—	0912 000093	0	0	0	1(H/A)	7	8:00AM-6:00pm
23	Buray o	Hawi Ruald drug vendor	Desalegen Kumessa	Burayo Keta Kebele	—	0911 69 88 81	0	1	0	0	6	8:30AM-12:30pm
24	Buray o	Nahim Drug Store	Rahel Shiferaw	Geferessa burayo Kebele	—	0911 44 96 46	0	1	2	0	6	8:30AM-8:00pm
25	Buray o	Eyesus Drug Store	Melaku Hambisa	Geferessa Kebele	—	0913 43 90 06	0	0	2	0	6	8:30AM-7:30pm
26	Buray o	Rohobot rural drug vendor	Yetayesha Tameru	Geferssa Burayo Kebele	—	0911 76 35 58	0	0	0	2 (certificate)	6	8:30AM-8:00pm
27	Buray o	Tesfa Bamlake rural drug vendor	Meseret desalegen	Bureyo Keta Kebele	—	0911 95 57 20	0	0	0	2 (certificate)	6	8:30AM-7:30pm
28	Buray o	Berihan rural drug vendor	closed									
29	Buray o	Gifiti Rural drug vendor	closed									
30	Buray o	Simere rural drug vendor	closed									
31	Jimma	Red Cross pharmacy	Shemeles Degefie	Harmata Keble	222	047 1122562	1	2	0	0	6	8:30AM-5:30pm
32	Jimma	Hayu Jimma pharmacy	Dereje Bogale	Harmata Kebele		0471123713/0917802781	1	1	0	0	5	8:30AM-7:30pm

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggist	technician	other specialty		
33	Jimma	Jimma University model pharmacy	Meseret Yeredaw	Haermata Kebele	—	047 1110242	1	2	0	0	6	8:30AM-7:30pm
34	Jimma	Merob Pharmacy	Gedamu Tekele	Awitu Medera Kebele	—	0911 734300	1	1	0	0	6	8:00AM-8:00pm
35	Jimma	Merkato Pharmacy	Tihitena Ayalekebet	Hermata Merkato Kebale		0913312018/0911804130	1	0	0	0	6	8:30AM-8:00pm
36	Jimma	Mati Pharmacy	Aniley Habetamu	Hermata Merkato Kebele		0917 803263	1	0	0	0	6	9:00AM-8:00pm
37	Jimma	Kene Nama Pharmacy	Hussen Ababerhu	Hermata Kebele	264	0912 046466 / 0471170 60	1	1	0	0	6	8:30AM-8:00pm
38	Jimma	Shone & His Family Pharmacy	Abereham G/giorgis	Hermata Merkato Kebele		047111 0107	1	1	0	0	7	8:30AM-6:30pm
39	Jimma	Mizan Pharmacy	Dinkensh Defar	Hermata kebele	938	047112 3048	1	1	0	0	7	9:00AM-9:00pm
40	Jimma	Bethel Pharmacy	Elezabethe Fisiha	Hermata Merkato Keble		047111 4472	1	0	1	0	6	8:30AM-8:30pm
41	Jimma	Menz Pharmacy	Menaleshewa Bekele	Hermata Merkato Keble	527	047111 05 57	1	0	1	0	6	9:00AM-8:00pm
42	Jimma	Wolde Pharmacy	Wolde Gisa	Ginjo Guderu Kebele		047111 53 34 /0911155649	1	1	0	0	6	8:00AM-8:00pm
43	Jimma	Aman Pharmacy	Ameha Berehe	Hermata Kebele		0917 808239	1	0	0	0	6	24hrs
44	Jimma	Awitu Pharmacy	Henok Eshetu	Becho bore Kebele		0917 013635	1	1	0	1 (nurse)	7	6:00AM-8:00pm
45	Jimma	Lucy Pharmacy	Alene bekele	Ginjo Gudru Kebele		0913 811973	1	0	0	0	6	8:30AM-8:00pm
46	Jimma	Shalom Pharmacy	Yebeltal Gadisa	Ginjo Gudru Kebele		0917 013635	1	1	0	0	6	9:00AM-8:00pm
47	Jimma	Jimma Drug Store	Mohammed Issa	Hermata Merketo Kebele		0917 02 08 46	0	2	0	0	7	8:00AM-8:00pm

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggi st	technici an	other specialty		
48	Jimma	Dembel Drug Store	Addisu Kebede	Awitu Mendera Kebele		0911 746120 /047111 8858	0	2	0	0	6	8:00AM-9:00pm
49	Jimma	Bethlehem Drug Store	Kefera Wolekeba	Awitu Mendera Kebele		0913 988071 /047 111 91 47	0	2	0	0	6	8:00AM-8:30pm
50	Jimma	Siham Drug Store	Getachew Ababor	Awitu mendera Kebele		0917 001186 / 047111 00 70	0	2	0	0	6	8:00AM-8:00pm
51	Jimma	Tsinu Drug Store	Hiwot Abera	Awitu Mendera Kebele		0917 807016	0	2	0	0	6	8:00AM-6:00pm
52	Jimma	Milcom Drug Store	Berihanu Lemmu	Awitu Mendera Kebele		0917 80 27 69	0	2	0	0	6	8:30AM-8:30pm
53	Jimma	Sena Drug Store	Ahemed Mohammed	Awitu Mendera Kebele		0911 23 43 00 /047 111 53 3	0	2	0	0	6	8:30AM-8:00pm
54	Jimma	Anbessa Drug Store	Aman Hamid	Hermata Merkato Kebele		0917 80 39 39 / 047 111 12 48	0	2	0	0	6	8:30AM-8:00pm
55	Jimma	Abedi Drug Store	Nasir Wabela	Hermata Merkato Kebele		0917 80 15 25 /047 122 38 90	0	2	0	0	7	9:00AM-8:30pm
56	Jimma	Public Rural drug vendor	Hussen Ababeru	Hermata Merkato Kebele	414	047 111 04 20	0	0	0	1(H/A)	5	9:00AM-7:00pm
57	Jimma	Nur Drug Store	Mohammed Ibrahim	Hermata Kebele		0917 81 34 13	0	2	0	0	7	8:00AM-9:00pm
58	Jimma	Beharawi Drug Store	Awole Abamecha	Hermata Kebele		0917 80 15 08	1	1	0	0	6	8:00AM-7:00pm
59	Jimma	Dipo Drug Store	Solomon Ayele	Ginjo Guderu Kebele		0917 80 43 87 /047 112 92 03	2	0	0	0	6	9:00AM-9:00pm
60	Jimma	Bekilitu Drug Store	Eneyew Tefera	Ginjo Guderu Kebele		0917 01 65 65	0	1	0	0	7	8:00AM-10:00pm
61	Jimma	Hayat Drug Store	Yasin Mubarke	Ginjo Guderu Kebele	1306	0911 79 98 33 / 047 111 87 91	0	1	0	0	7	24hrs

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggi st	technici an	other specialty		
62	Jimma	Jiregna Drug Store	Mlelese Abamsla	Ginjo Guderu Kebele		0911 03 80 35 / 047 111 53 34	0	2	0	0	6	8:30AM- 6:00pm
63	Jimma	Yebasira Drug Store	Terefe Zewede			0911 39 21 13 /047 112 37 49	0	2	0	0	7	9:30AM- 11:30pm
64	Jimma	Gelead Drug Store	Pawolos Dilebo	Ginjo Guderu Kebele		0917 06 05 66 /047 112 81 67	0	2	0	0	7	24 hrs
65	Jimma	Horizon Drug Store	Agegnehu Abebe	Ginjo Guderu Kebele		0911 39 14 20	1	1	1	0	7	24 hrs
66	Jimma	Lina Drug Store	Abedela Aman	Harmata Kebele		0911 79 44 59 /047 111 16 88	1	0	0	0	7	8:30AM- 8:30pm
67	Jimma	Limu Drug Store	G/Mechiel Worku	Ginjo Kebele		0917 82 92 98	0	1	0	0	7	8:00AM- 8:30pm
68	Jimma	Kokit Drug Store	Shalo Abadisa	Hermata Merkato Kebele	449	0917 80 15 91 / 047 111 98 40	0	3	0	0	6	8:00AM- 8:00pm
69	Jimma	Hibert Rural drug vendor	Girma Denkie	Becho Bore Kebele	810	047 111 11 06	0	1	0	0	6	9:00AM- 7:00pm
70	Jimma	Biruke Drug Store	Wolde Bekalo	Becho Bore Kebele		0917 54 64 99 / 047 111 48 37	0	0	0	1 (certificate)	6	9:00AM- 6:00pm
71	Jimma	Yane Drug Store	Alemerew Kebede	Becho BoreKkebele		0911 05 35 99	0	1	0	0	6	8:00AM- 8:00pm
72	Jimma	Tsega Drug Store	Tsegaye Abebe	Hermata Kebele		0912 80 02 54 /0471 11 82 06	0	2	0	0	6	9:00AM- 8:00pm
73	Jimma	Hiwot Drug Store	Daniel G/mariam	Hermata Kebele	232	0917 80 14 00 /047111 03 46	0	2	0	0	7	8:00AM- 9:00pm
74	Jimma	Abajefar Drug Store	Ahemmed Yasin	Hermata Merkato Kebele		0917 60 41 93 /047 111 03 15	0	1	0	1(H/A)	6	8:00AM- 8:00pm

S/N O	town	Name of drug vendor	Name of contact person	Kebele	P.O.Box	Telephone	Number of professionals				Working days per week	Working hours per day
							B phar.	druggi st	technici an	other specialty		
75	Jimma	Frankor Drug Store	Issa Furissa	Hermata Merkato Kebele		0917 60 41 93	0	1	0	0	7	9:00AM-7:30pm
76	Jimma	Beki Drug Store	Genne Fekedu	Hermata Merkato Kebele		0917 80 09 23 /047 111 79 88	0	1	0	0	6	8:30AM-8:30pm
77	Jimma	FGAE Drug Store	Endale Erko	Hermata Merkato Kebele		047 111 02 74	0	1	0	0	6	8:30AM-5:30pm
78	Agaro	Red Cross pharmacy	Mulugeta G/meskel	kebele 02	27	047 2221072	0	2	0	0	6	8:30AM-5:30pm
79	Agaro	Kena Drug Store	Telila Dheresa	kebele 02		047 22 11 563	0	2	0	0	7	24 hrs
80	Agaro	Robera Drug Store	Eba yigezu	kebele 02		0911 72 06 47	0	3	0	0	7	24 hrs
81	Agaro	Alemtsehay Drug Store	Kidist Tsehay	kebele 02	16	047 22 11 161	0	1	1	0	6	8:30AM-8:30pm
82	Agaro	Rajit Drug Store	Temesgen Ganuma	kebele 03		0917 85 77 77	2	0	0	0	7	8:00AM-10:00pm
83	Agaro	Hawi Drug Store	Tegegn Admasu	kebele 02		047 22 11 854	0	1	0	0	6	8:30AM-8:00pm
84	Agaro	Kidus Giorgis Drug Store	Gedion Yadera	kebele 02	184	047 221 1057	1	1	0	0	7	7:00AM-8:00pm
85	Agaro	Anbesa Drug Store	Shemisu A/Gero	kebele 02	43	047 221 10 89	0	1	1	0	6	8:30AM-8:30pm
86	Agaro	Elshaday Drug Store	Eyasu Abko	kebele 01		0912 18 45 24	0	1	0	0	6	8:00AM-8:00pm
87	Agaro	Nura Drug Store	Mohamed Nur	kebele 04	300	0917 80 14 44	0	1	0	0	7	8:30AM-8:00pm

ANNEX B: TOOLS USED FOR THE SURVEY

KEY INFORMANT INTERVIEW GUIDE: RHB/ZHD/THO

Note for the Interviewer

- The key informant interview will be conducted with members of the target groups and heads/staff of organizations selected for this interview (list to be prepared and provided before deployment).
- You will facilitate the discussion. Each interview will last for about one to one and half hours. Interviews will be tape recorded. If there is unwillingness to be tape-recorded by the key informant of tape recording, interview will be conducted without tape-recording. No any other person should attend or listen to the interview except when there is a language barrier and an interpreter selected and briefed for this purpose.
- Introduce yourself using the introductory sentences below.
- Read out the consent below and get the respondent's consent before starting the interview

INTRODUCTION:

My name is I'm working for PHSP|Abt Associates, a partner organization working to support and strengthen health programs in Ethiopia, through engaging public and private health sectors. I am discussing some specific and general points and issues with selected people like you to get ideas about challenges, opportunities and possible remedies for the involvement of lower clinics and drug vendors in TB suspect identification and referral program.

Now, I would like to have a short interview with you. The interview will not take us more than 1 and half hours. I am interested in all information (your ideas, insights, comments and suggestions) you will be giving me about the issues raised during our discussion. There is no right or wrong answer. All comments-both positive and negative-are welcome. Your answers will help us improve services to other people.

Confidentiality and consent: I'm not going to ask your personal questions. However, I would like to confirm to you that your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any of the questions that you do not want to answer, and you may end this discussion session at any time you want to. However, I would like you to realize that your honest answers to these questions would help us better understand on the involvement of lower clinics and drug vendors in TB suspect identification. This interview will be recorded just to replay it while we compile and summarize points from this interview. If you are not comfortable with the recording, I can do without recording.

Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

(Signature of interviewer certifying that informed consent has been given verbally by respondent)

1. Background information

Name and location (town) of organization: _____

Sex of the respondent: Male..... Female.....

Position of Respondent _____

Name of Interviewer _____

Date of Interview _____

Estimated population of the Town _____

2. Magnitude and spread of TB in the town

2.1.Can you tell me the burden of TB in this region/zone/town?

2.2.What about the burden of HIV?

2.3.How do you see the trend of both diseases over the past years, i.e., increasing, decreasing, the same?

2.4.What do you think are the factors that contribute for the spread of TB in this region/zone/town? What about for HIV?

2.5.Are there special risk factors (cultural, social practices, etc.) that could potentially contribute for the transmission of TB in this region/zone/town?

3. General health services information(see that attached worksheet)

4. Intervention Activities

- 4.1. What interventions are in place by the RHB/ZHD/THO to curb the spread of TB in this region/zone/town?
- 4.2. Where do TB suspects get the following services, i.e., in public health facility? In private? In both:
- Suspect identification?
 - Laboratory diagnosis?
 - Referral?
 - Treatment and follow-up?
- 4.3. Do you think there are TB suspects undiagnosed in the town despite the availability of these services? Can you tell more how you know about the presence of TB suspects?
- 4.4. How can TB services be more accessible for these TB suspects?
- 4.5. Are private health facilities involved in TB control program in your region/zone/town?
- 4.6. If Yes: how are they involved and how many?
- TB suspect identification _____ Number _____
 - Referral _____ Number _____
 - Laboratory diagnosis _____ Number _____
 - Treatment and follow-up _____ Number _____
- 4.7. What do you think are the advantages of involving private sector in TB control?
- 4.8. Are there challenges in involving private sector in TB control? Please explain:
- 4.9. Do you think all existing health facilities (public, private) are efficiently utilized to improve TB case detection and treatment services?
- 4.10. If not, what do you think is the better way to improve TB suspect/patient identification and referral services in your town?
- 4.11. Please comment on the consistency of TB-care logistic supply to public facilities? Frequency of supply refilling?
- 4.12. What about the consistency of TB-care logistic supply to private health facilities? Frequency of supply refilling? and the possibility of linking private sector in the existing logistic system
- 4.13. Can you explain on the possibility of linking private sector in the existing logistic system? Providing recording and reporting format, supportive supervision? What could be the benefit of linking with existing system? Its challenge?

5. Regarding lower clinics and drug vendors

- 5.1. What types of TB services are available so far in lower clinics and drug vendors, in your area?
- 5.2. In your opinion, what would be the most important priority TB services to be implemented in lower clinics and drug vendors in your town? Why?
- 5.3. Is there existing experience, if any, of referral linkage or networking between the lower clinics and drug vendors to the higher level health care service institutions be it public or private?
- E.g., do you think lower clinics and drug vendors had previous experience in TB suspect's referral to the higher level health facilities.
- 5.4. In your experience, how do you see the relevance of involving lower clinics and drug vendors in TB suspect identification and referral in this town?
- 5.5. How do you describe RHB/ZHD/THO role in supportive supervision with the lower clinics and drug vendors?

- Who is responsible for supportive supervision? RHB, ZHD, THO
 - How often is the supervision done?
- 5.6. Please explain the reporting mechanism for the lower clinics and drug vendors?
- How often do they submit report? To whom, i.e. RHB, ZHD, THO?
- 5.7. What kind of support should be given to the lower clinics/drug vendors to maximize their role in TB suspect identification/referral services? i.e.,
- 5.7.1. Recording reporting formats supportive supervision?
 - 5.7.2. Capacity building, e.g., training, provision of guidelines, job aids and technical support, etc.
 - 5.7.3. Which stakeholders should be involved for the support?
 - 5.7.4. What could be your role?
- 5.8. Any general recommendation for involvement of lower clinics/drug vendors in TB suspects identification/referral services?

Ask respondent if he/she has anything to ask for clarification?

Thank the respondent and show your appreciation for his/her time and valuable responses!

Questionnaire to assess all lower clinics and drug vendors in the towns to involve in TB suspect/patient identification and referral program

Section I. Profile of Existing lower Clinics and Drug Vendors

1. Name of institution (lower clinic/drug vendor) (Fill the annexed form.)

2. Services available (for lower clinic):

Services	Are these services provides (circle that apply)	Remark
VCT	Yes-----1 No-----2	
Family planning/Reproductive health	Yes-----1 No-----2	
Child health	Yes-----1 No-----2	
Antenatal care	Yes-----1 No-----2	
STI	Yes-----1 No-----2	
Laboratory services	Yes-----1 No-----2	
TB services -	Specify type of TB services · Suspect identification · Referral · Diagnosis · Treatment	
General health care	Yes_____1 No-----2	
Emergency health care	Yes_____1 No-----2	
Other (Specify)		

3. Working days:

(Please tick that apply)

1. Seven days/wk.
2. Five days/wk.
3. Three days/wk.
4. Two days/wk.
5. One day/wk.

4. Working hours:

1. 24hrs
2. 8:30AM-Mid night
3. 8:30AM-5:30PM
4. 8:30AM-12:30AM
5. 1:00PM-Mid night
6. 3:00PM-8:00PM
7. 5:30PM-6:30PM
8. Other; please specify -----

5. Estimation of average number of patients seen in the clinic per week?

1. Adult male-----
2. Adult female-----
3. Children-----

Section II. Human resources

6. Total number of staff available in the facility:-----

Staff Qualification (Please tick that apply)

Lower Clinic	Number	Drug Vendor	Number
MD		B.Pharm (Pharmacist)	
HO		Druggist	
BSc		Pharmacy technician	
Diploma nurse		Certificate	
H/A			

In-depth interview guide for owner/representative of lower clinics and drug vendors

Note for the Interviewer

- The key informant interview will be conducted with members of the target groups and heads/staff of organizations selected for this interview (list to be prepared and provided before deployment).
- You will facilitate the discussion. Each interview will last for about one to one and half hours. Interviews will be tape recorded. If there is unwillingness to be tape-recorded by the key informant of tape recording, interview will be conducted without tape-recording. No any other person should attend or listen to the interview except when there is a language barrier and an interpreter selected and briefed for this purpose.
- Introduce yourself using the introductory sentences below.
- Read out the consent below and get the respondent's consent before starting the interview

Introduction:

My name is I'm working for PHSP|Abt Associates, a partner organization working to support and strengthen health programs in Ethiopia, through engaging public and private health sectors. I am discussing some specific and general points and issues with selected people like you to get ideas about challenges, opportunities and possible remedies for the involvement of lower clinics and drug vendors in TB suspect identification and referral program.

Now, I would like to have a short interview with you. The interview will not take us more than 1 and half hours. I am interested in all information (your ideas, insights, comments and suggestions) you will be giving me about the issues raised during our discussion. There is no right or wrong answer. All comments-both positive and negative-are welcome. Your answers will help us improve services to other people.

Confidentiality and consent: I'm not going to ask your personal questions. However, I would like to confirm to you that your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any of the questions that you do not want to answer, and you may end this discussion session at any time you want to. However, I would like you to realize that your honest answers to these questions would help us better understand on the involvement of lower clinics and drug vendors in TB suspect identification. This interview will be recorded just to replay it while we compile and summarize points from this interview. If you are not comfortable with the recording, I can do without recording. Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

(Signature of interviewer certifying that informed consent has been given verbally by respondent)

I. Background information

Name and location (town) of organization: _____

Sex: Male..... Female.....

Position of respondent _____

Name of Interviewer _____

Date of Interview _____

2. Magnitude and spread of TB in the town:

- 2.1 How do you explain the health problem in this area? Is TB an important health problem?
- 2.2 How do you know that TB is a common health problem in the town?
- 2.3 How do you know that someone has TB? Can you add additional manifestation of TB?

3. Service delivery:

- 3.1 Can you tell me about the most important activities that you are involved in with regard to TB patient management? (Probe: Suspect identification, referral? Treatment follow-up?)
- 3.2 Where do most people go first to seek health services in general?
- 3.3 Where do you think most people who develop TB symptoms go first to seek services? I.e., TB diagnostic and treatment? Is it to public or private facility? Why?
- 3.4 Can you tell us about the list of health facilities which give TB diagnosis and treatment services in the town?
- 3.5 Do you think that there are TB suspects undiagnosed in the town despite the availability of these services? Can you tell me more how came to know that there are untreated/undiagnosed TB suspects?
- 3.6 How can TB services be more accessible for these TB suspects? Can you elaborate more on the following services:
 - Suspect identification?
 - Referral?
 - Laboratory diagnosis?
 - Treatment and follow-up?
- 3.7 What types of TB services are available in your facility?
 - Suspect identification?
 - Referral?
 - Laboratory diagnosis?
 - Treatment and follow-up?
- 3.8 Where do you refer TB suspects for further management? Do you have referral form or do you document when you refer?
- 3.9 How is the referral service working?
 - To the public facility
 - To private facility
 - Do they readily accept your referral?
 - Is there a way for you to know about the patient that you referred? (whether he has reached to the facility, received the service and type received and outcome of your suspicion)
- 3.10 Can you please name these available referral accepting health facilities, both public and private facilities that provide TB diagnosis and treatment in the study towns.
- 3.11 Do you think that the services offered to TB suspects need improvement? If yes what should be improved? What do you think your role could be?
- 3.12 What could be your reaction, if you are invited by the health office to participate in TB suspect identification and referral service?
- 3.13 Can you explain more on your commitment to allocate resources for the service in terms of staff and time?
- 3.14 What kind of support, if any, you specifically require to be involved in TB suspect identification and referral service?
 - Can you please mention in detail here?
 - Which organizations should be involved to fulfill the mentioned support?

- 3.15 How do you describe the available recording and reporting system in your facility? To whom do you report? How is the frequency? (Monthly, quarterly...)
- 3.16 Who is supervising your facility? How often do they come to your facility? Do they give you feed back?
- 3.17 In your experience, how do you see the relevance of involvement of facilities like yours in TB suspect identification and referral in this town? Can you explain more on that? What should be in place to effectively utilize these facilities?
- 3.18 How can you work smoothly with higher facilities and nearby health offices regarding TB suspect identification and referral? What should be done to further strengthen your networking?

4. Additional questions for drug vendors only:

- 4.1 If a client comes to you for a complaint of cough of more than two weeks, what do you do? Give cough antibiotics, cough syrups, refer client as TB Suspect

Ask respondent if he/she has anything to ask for clarification?

Thank the respondent and show your appreciation for his/her time and valuable responses!

In-depth interview guide for GHWs in public and private health facilities

Note for the Interviewer

- The key informant interview will be conducted with members of the target groups and heads/staff of organizations selected for this interview (list to be prepared and provided before deployment).
- You will facilitate the discussion. Each interview will last for about one to one and half hours. Interviews will be tape recorded. If there is unwillingness to be tape-recorded by the key informant of tape recording, interview will be conducted without tape-recording. No any other person should attend or listen to the interview except when there is a language barrier and an interpreter selected and briefed for this purpose.
- Introduce yourself using the introductory sentences below.
- Read out the consent below and get the respondent's consent before starting the interview

Introduction:

My name is I'm working for PHSP|Abt Associates, a partner organization working to support and strengthen health programs in Ethiopia, through engaging public and private health sectors. I am discussing some specific and general points and issues with selected people like you to get ideas about challenges, opportunities and possible remedies for the involvement of lower clinics and drug vendors in TB suspect identification and referral program.

Now, I would like to have a short interview with you. The interview will not take us more than 1 and half hours. I am interested in all information (your ideas, insights, comments and suggestions) you will be giving me about the issues raised during our discussion. There is no right or wrong answer. All comments-both positive and negative-are welcome. Your answers will help us improve services to other people.

Confidentiality and consent: I'm not going to ask your personal questions. However, I would like to confirm to you that your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any of the questions that you do not want to answer, and you may end this discussion session at any time you want to. However, I would like you to realize that your honest answers to these questions would help us better understand on the involvement of lower clinics and drug vendors in TB suspect identification. This interview will be recorded just to replay it while we compile and summarize points from this interview. If you are not comfortable with the recording, I can do without recording. Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

(Signature of interviewer certifying that informed consent has been given verbally by respondent)

I. Background information

Name and location (town) of organization: _____

Sex: Male..... Female.....

Education: No.....Primary.....Secondary.....Some college.....University.....

Position of respondent _____

Name of Interviewer _____

Date of Interview _____

2. Magnitude and spread of TB in the town:

2.1. Can you explain the common health problems in this area?

2.2. Is TB an important health problem? How do you know that TB is a common health problem in the town?

3. Service Delivery:

3.1. Can you tell me about the most important activities that you are involved in with regard to TB patient management? (Probe: Suspect identification, diagnosis, referral, treatment and follow-up?)

3.2. Where do mostly TB suspects go first to get TB services? (Diagnosis and treatment? public health facility? Or private facility? Why do you think is their preference?)

3.3. Do you think that there are TB suspects undiagnosed in the town despite the availability of these services? Can you tell more how you know about the presence of TB suspects?

3.4. How can TB services be more accessible for these TB suspects? Can you elaborate more on the following

- Suspect identification?
- Referral?
- Laboratory diagnosis?
- Treatment and follow-up?

3.5. Do you know private health facility/ies that give TB diagnostic and treatment and follow-up services in the town? Can you tell us more about that? (Services available, cost, acceptance...)

3.6. From where do you get TB logistics: laboratory reagents, sputum cup, anti-TB drugs and other logistic supplies?

3.7. How often do you get these supplies? Is it regular?

3.8. How do you describe the hierarchy of recording and reporting of your health facility? Where do you report to? How is the frequency? (Monthly, quarterly...)

3.9. Can you give us the referral linkage of your facility? Which facility/ies refer patients to your facility? Can you list them please? Public/private? If private facility is included in the list, does the list include lower clinics/drug vendors?

3.10. In your experience so far, have you received referred TB suspect/s from lower clinics? Drug vendors? If not what could be the explanation?

3.11. In your opinion, what types of TB services is available in lower clinics? Drug vendors? In your area?

3.12. Who is supervising your facility? How often they come to your facility? Its regularity? Do they give you feed back?

- 3.13. In your experience, what do you think is the best arrangement to provide TB suspect/patient identification and referral services in your town?
- 3.14. What do you think is the most important priority TB services in lower clinics and drug vendors in your town? Why?
- 3.15. In your experience, how do you see the relevance of involving lower clinics and drug vendors in TB suspect identification and referral in this town? Can you explain more on that?
- 3.16. What support should be there for the lower clinics/drug vendors to give TB suspect identification/referral services?
- 3.17. Which stakeholders should be involved for the support?
- 3.18. What could be your role?
- 3.19. How can you work smoothly with lower clinics and drug vendors in the area of TB suspect identification and referral? What should be done to maximally utilize the potential of lower clinics and drug vendors in this particular activity?

Ask respondent if he/she has anything to ask for clarification?

Thank the respondent and show your appreciation for his/her time and valuable responses!

Key informant interview guide for HEWs/community TB provider

Note for the Interviewer

- The key informant interview will be conducted with members of the target groups and heads/staff of organizations selected for this interview (list to be prepared and provided before deployment).
- You will facilitate the discussion. Each interview will last for about one to one and half hours. Interviews will be tape recorded. If there is unwillingness to be tape-recorded by the key informant of tape recording, interview will be conducted without tape-recording. No any other person should attend or listen to the interview except when there is a language barrier and an interpreter selected and briefed for this purpose.
- Introduce yourself using the introductory sentences below.
- Read out the consent below and get the respondent's consent before starting the interview

Introduction:

My name is I'm working for PHSP|Abt Associates, a partner organization working to support and strengthen health programs in Ethiopia, through engaging public and private health sectors. I am discussing some specific and general points and issues with selected people like you to get ideas about challenges, opportunities and possible remedies for the involvement of lower clinics and drug vendors in TB suspect identification and referral program.

Now, I would like to have a short interview with you. The interview will not take us more than 1 and half hours. I am interested in all information (your ideas, insights, comments and suggestions) you will be giving me about the issues raised during our discussion. There is no right or wrong answer. All comments-both positive and negative-are welcome. Your answers will help us improve services to other people.

Confidentiality and consent: I'm not going to ask you personal questions. However, I would like to confirm to you that your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any of the questions that you do not want to answer, and you may end this discussion session at any time you want to. However, I would like you to realize that your honest answers to these questions would help us better understand on the involvement of lower clinics and drug vendors in TB suspect identification. This interview will be recorded just to replay it while we compile and summarize points from this interview. If you are not comfortable with the recording, I can do without recording. Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

(Signature of interviewer certifying that informed consent has been given verbally by respondent)

1. Background information

Name and location (town) of organization: _____

Sex: Male..... Female.....

Position of respondent _____

Name of Interviewer _____

Date of Interview _____

2. Magnitude and spread of TB in the town:

2.1 How do you explain the health problem in this area? Is TB an important health problem?

2.2 How do you know that TB is a common health problem in the town?

2.3 How do you know that someone has TB? Can you add additional manifestation of TB?

3. Intervention activities:

3.1. What types of TB services are provided at your facility? Suspect identification, Referral? Laboratory diagnosis?, Treatment and follow-up?

3.2. Where do you think most TB suspects go for TB services? (Diagnosis and treatment? public health facility? Or private facility?

3.3. Do you think that there are TB suspects undiagnosed in the town despite the availability of these services? Can you tell more how you know about the presence of TB suspects?

3.4. How can TB services be more accessible for these TB suspects? Can you elaborate more on the following:

- Suspect identification?
- Referral?
- Laboratory diagnosis?
- Treatment and follow-up?

3.5. Do you know private health facility/ies that give TB diagnostic and treatment and follow-up services in the town? Can you tell us more about that? (Services available, cost, acceptance...)

Can you tell us which health facilities are involved in TB suspect identification and Referral?

3.6. Can you list other potential health facilities/ places where TB suspect can visit in this town to get TB services?

3.7. Based on your experience, what types of TB services are available in lower clinics/ Drug vendors? in your area?

- Suspect identification?
- Referral?
- Laboratory diagnosis?

- Treatment and follow-up?
- 3.8. Where do you refer TB suspects? Why? Do you always refer to these mentioned health facilities only?
- 3.9. In your experience, what do you think is the best way to provide TB suspect/patient identification and referral services in your town?
- 3.10. In your opinion, what would be the most important priority TB services in lower clinics and drug vendors in your town? Why?
- 3.11. In your experience, how do you see the relevance of involving lower clinics and drug vendors in TB suspect identification and referral in this town?
- 3.12. What support should be provided to lower clinics/drug vendors to give TB suspect identification/referral services?
- 3.13. Which stakeholders should be involved for the support?
- 3.14. What could be your role?
- 3.15. How can you work smoothly with lower clinics and drug vendors in the area of TB suspect identification and referral? What should be done to done to maximally utilize the potential of lower clinics and drug vendors in this particular activity?

Ask respondent if he/she has anything to ask for clarification?

Thank the respondent and show your appreciation for his/her time and valuable responses!

FOCUS GROUP DISCUSSION FOR TB PATIENTS (PUBLIC, PRIVATE)

FGD session code-----

Town-----

Tape recorder code-----

Introduction of the FGD facilitator:

Good Morning/afternoon:

My name is and I am assigned by ABH Services PLC to facilitate this focus group discussion with you. ABH Services PLC was contracted by Abt Associates Inc. to conduct this study for its new private health service program to be implemented in this town.

Purpose of the study:

PHSP envisages at preventing TB transmission among the community and strengthening TB suspect identification referral linkage to improve TB diagnosis and treatment services in some towns. In this study, we are trying to learn about the level of understanding about TB, its major symptoms, means of transmission, prevention and treatment, first point of contact to seek care, perception towards private health facilities, barriers to seek early diagnosis and treatment by TB patients, advantage/disadvantages, challenges of involving lower clinics/drug vendors in TB suspect identification and referral program in the town.

Explanation of Procedures:

A Focus Group Discussion is a group discussion of approximately 8-12 persons guided by a facilitator, during which group members talk freely and spontaneously about a certain topic. I will also be present during the focus group discussion, take notes and audio record the discussion for later analysis. The focus group session will last approximately 1 and half hours.

Confidentiality:

The information collected in this study will remain confidential. This means that your identity as a participant will not be revealed to people other than the facilitators. Any references to information that would reveal your identity will be removed or disguised prior to the preparation of the research reports and publications. All research materials will be kept in a locked office at ABH Services Plc in Addis Ababa. All audio recordings will be erased at the completion of the study.

Risks and Discomforts:

We do not anticipate that participation in this study will pose physical or psychological risks beyond what you encounter in everyday life. However, if you are uncomfortable answering a particular question, you are free to refuse to answer the question, and you are free to quit the study at any time.

Benefits:

You will have the opportunity to discuss your views on a very important health issues as TB and the factors in favor of ongoing TB transmission in the town/community and also forward your suggestions on how to reach out to the TB suspects in the community with information and services on TB. In addition, the results from this study will be used as important input in designing appropriate TB prevention and control design in this and other similar towns.

Freedom to Withdraw Participation:

Participation in this study is voluntary. You are free to withdraw consent and end your participation in this focus group discussion at any time.

Remuneration:

You will not be provided with any payment to take part in the focus group discussion. However, you will be given with ETB 30.00 as a reimbursement for expenses incurred as a result of participation, including travel expenses and reimbursement for time lost.

Contact Information:

If you have concerns about this study or would like to get further information after we have completed the study, please contact us at the following address:

ABH Services Plc. Bole Road, TK International Building

P. O. Box 19468 Addis Ababa, Ethiopia

Tel.: +251116186520/+251911511610

Part I. Questions

S. No	Study Questions
	Objective: To assess knowledge, attitude and practice of TB patients
1	<p>What do you know about causes and transmission of TB?</p> <p>Probe:</p> <ul style="list-style-type: none"> A. Cause of TB? B. How does an individual get TB? C. How do you know that a person has developed TB? Can you list symptoms? D. Which group of a society is affected by TB? E. In your opinion, is TB a serious health problem?
2	Objective: to assess the perception of TB patients regarding TB prevention
	<p>What measures do you take to prevent yourself from TB?</p> <p>Probe:</p> <ul style="list-style-type: none"> A. Is TB preventable? B. What do you know about cough hygiene? (covering mouth and nose during coughing, sneezing by forearm/handkerchief or tissue paper and stop spitting openly?) C. What do you know about TB treatment?
3	Objective: explore point of first contact to seek care
	<p>Where do you go first when you/family encountered health problem?</p> <p>Probe:</p> <ul style="list-style-type: none"> A. Which facility do you prefer most to go? B. Public or private? C. Why? D. What are some the factors for your preference? And not?
4	Objective: Explore possible barriers of early service seeking behavior

	<p>What are the possible barriers for early service seeking behaviors?</p> <p>Probe:</p> <ul style="list-style-type: none"> A. What do you do when you first suspect TB? B. Do you practice locally available herbals/other preparations/traditional healer first? C. Where do you go then, after the symptoms persisted? D. Do you think there is delay between the first symptom and initiation of anti-TB treatment? E. Why the delay? Probe for preference, cost, distance, stigma in association with HIV,,, F. Is there a TB suspect identification and referral service in lower clinics/drug vendors in your town so far?
5	<p>Objective: Understand the perception of TB patient towards TB service in private sector program (suspect identification and referral program) and possible barriers</p>
	<p>Have you heard about TB services availability in private clinics?</p> <p>Probe:</p> <ul style="list-style-type: none"> A. In your opinion, do you think lower clinic/drug vendor can assist facilitating TB service by referring suspects to higher health facilities for get appropriate services? B. If not why not? C. What are your fears? <p>Probe:</p> <ul style="list-style-type: none"> D. Payment? E. Misinformation? F. Lack of trust? <p>For those patients in private sector only</p> <ul style="list-style-type: none"> G. Why did you prefer to get your TB service in private clinic? H. What advantages did you get? I. Have you encountered any problem? J. What do you suggest to improve the involvement of private clinics in TB services?
6	<p>Objective: Explore the advantage of involving lower clinics and drug vendors to TB suspect identification and referral program</p>

Do you think that involving lower clinics and drug vendors is advantageous?

Probe:

- A. What are the major benefits?
 - For the patient?
 - For the family?
 - To curb the spread of TB?
 - For the community?
- B. Do you think that involving lower clinics and drug vendors will minimize the delay for the diagnosis for TB suspects and early initiation of anti-TB treatment for proven cases?
How?

4. General health services Information

Table 3: Public and private health facilities registry (Name of HFs and level will be filled by the town HO, the rest by the clinics)

Name of Health Facility	Level ²	Address with Contact person(for Clinic visit) ³	In what areas are you involved(for Clinic Visit only) TB clinical diagnosis TB lab diagnosis DOTS administration All the above TB suspects referral	How many TB patients registered in one year (Clinic Visits only)?

² Public: 1. Hospital(Categories as referral, General, Others)

2: Health Center

3. Health Posts (write only the number in the town)

4. Private(hospital, higher, medium, lower clinics or specialized clinics(Specify)

5. Workplace clinic

6. NGO(hospital, higher, medium, lower clinics or specialized clinics(Specify)

7. Drug outlet(Pharmacy, drug store, rural drug vendor)

8. Diagnostic Lab

³ Write the address in the following order

Name of contact person, town, kebele, P.o.Box, Telephone(mobile and land line), email.

ANNEX C: ASSESSMENT TEAM MEMBERS

This rapid assessment was conducted by ABH Services Plc. Team members included:

- Dr. Muluken Melese: Lead Investigator: Dr. Muluken participated in the development of the technical proposal, development of assessment tools, recruitment and training of data collectors, supervision of the assessment, and in the write-up of the final assessment report.
- Ukubay G/Yohannes, Fiseha Terefe, Asefa Marsae, Abreham Kassahun, Fekade Solomon, Abnet Tesfaye, Getinet Shewaseged, Chaltu Muleta and Yared Hailaye: actively participated in refining and field-testing the tools, served as data collectors and collected data from all regions and facilities, conducted in-depth interviews and focus group discussions, transcribed focus group discussions and prepared field reports.
- Dr. Markos Feleke, Executive Director of ABH Services Plc., Dr. Mengistu Tafesse, Technical Director of ABH Services Plc., and Mr. Eyob Kifle, Associate Technical Director, provided overall coordination, technical guidance and logistic support for the assessment.

ANNEX D: REFERENCE LIST

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